

**On the treatment of acute rheumatism : with special references to the use of the salicylates / by Donald W.C. Hood.**

**Contributors**

Hood, Donald William Charles.  
Medical Society of London.  
Royal College of Physicians of London

**Publication/Creation**

London : Harrison & Sons, 1888.

**Persistent URL**

<https://wellcomecollection.org/works/j28gzfkk>

**Provider**

Royal College of Physicians

**License and attribution**

This material has been provided by This material has been provided by Royal College of Physicians, London. The original may be consulted at Royal College of Physicians, London. where the originals may be consulted. This work has been identified as being free of known restrictions under copyright law, including all related and neighbouring rights and is being made available under the Creative Commons, Public Domain Mark.

You can copy, modify, distribute and perform the work, even for commercial purposes, without asking permission.



Wellcome Collection  
183 Euston Road  
London NW1 2BE UK  
T +44 (0)20 7611 8722  
E [library@wellcomecollection.org](mailto:library@wellcomecollection.org)  
<https://wellcomecollection.org>

ON THE  
TREATMENT  
OF  
ACUTE RHEUMATISM.

---

*HOOD.*

616 -  
002.77

616-002.771.

SC/26-3-C-6

SL

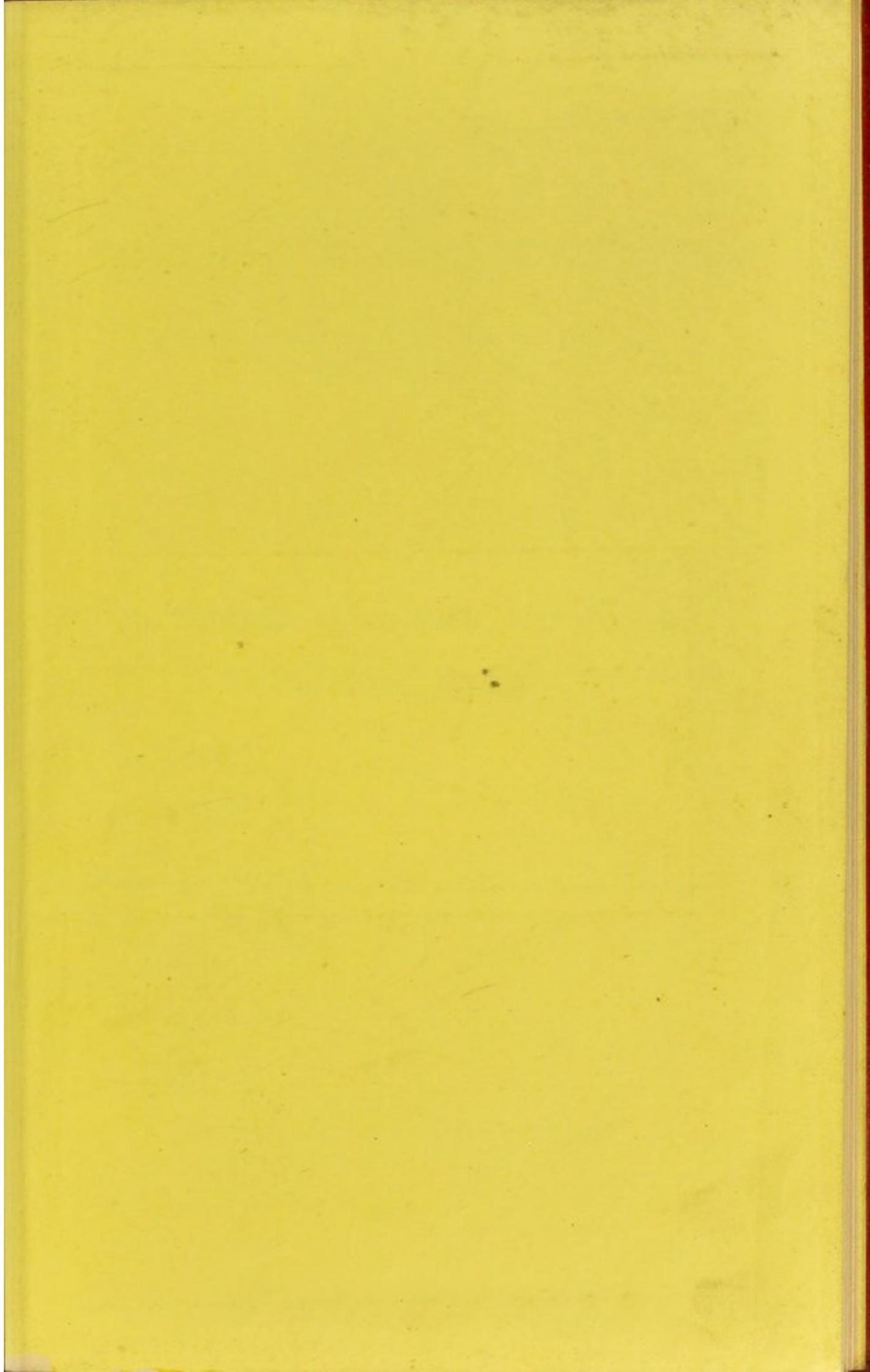
The Royal College of Physicians  
of London.

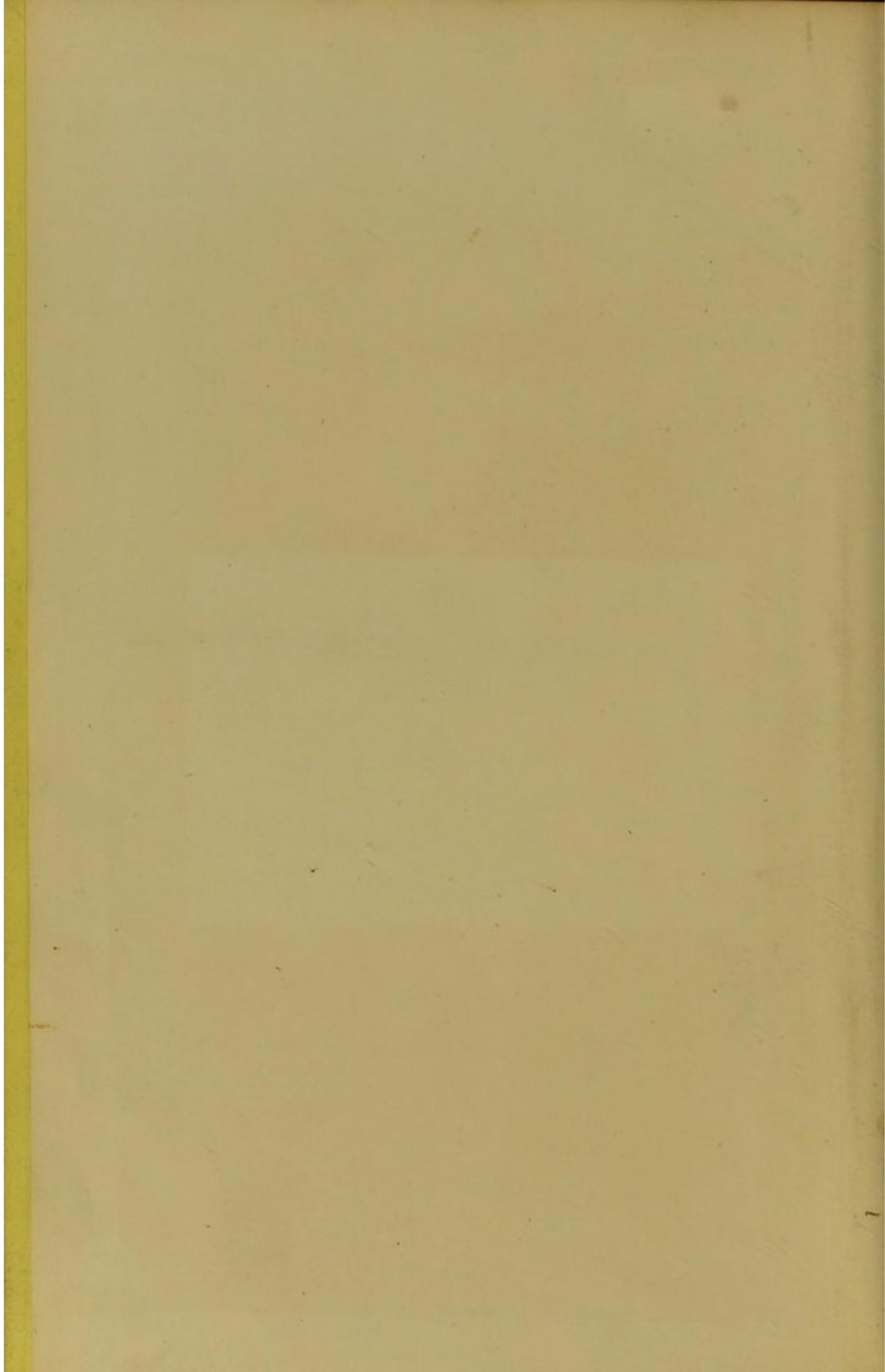
~~~~~  
*From the Library of*

*Sir Andrew Clark, Bart.*

*Presented by Lady Clark.*

147 D 30

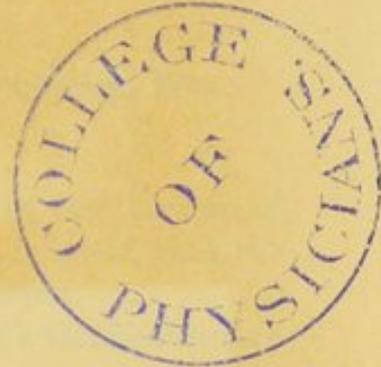




*With Engraving.*

---

ON THE  
TREATMENT OF ACUTE RHEUMATISM,  
WITH SPECIAL REFERENCES TO THE USE  
OF THE SALICYLATES.



BY

DR. DONALD W. C. HOOD, M.D. CANTAB.,

PHYSICIAN TO THE WEST LONDON HOSPITAL; SENIOR PHYSICIAN TO THE  
NORTH-WEST LONDON HOSPITAL.

---

PAPER READ BEFORE THE MEDICAL SOCIETY OF LONDON, FEBRUARY 13, 1888.

---

LONDON:  
HARRISON AND SONS, ST. MARTIN'S LANE,  
*Printers in Ordinary to Her Majesty.*

---

1888.

TREATMENT OF ACUTE RHEUMATISM

WITH SPECIAL REFERENCE TO THE  
USE OF SALICYLATES

BY DONALD W. C. HOOD, M.D. (Glasgow)

REVISED BY THE AUTHOR AND EDITOR  
AND REPRINTED FROM THE

|      |            |
|------|------------|
| CALL | 616-002-77 |
| NO.  | 23003      |
| DATE |            |
| BY   |            |

THE UNIVERSITY OF CHICAGO PRESS

LONDON  
HARVARD UNIVERSITY PRESS  
1910

ON THE TREATMENT OF ACUTE RHEUMATISM,  
WITH SPECIAL REFERENCES TO THE USE  
OF THE SALICYLATES.

By Dr. DONALD W. C. HOOD, M.D. Cantab., Physician, West  
London Hospital.

THE subject-matter of the paper which I have the honour of bringing before the Medical Society of London is based upon the reports of more than 2,000 cases of acute rheumatism.

Of these cases 850 are from the records of Guy's Hospital before the introduction of salicylates.

The remaining cases were all treated from the commencement of the illness, or, to speak with greater exactness, from the admission of the patient into hospital, by the salicylates, with but very few exceptions the preparation used being salicylate of soda, and the dose uniformly 20 grains, given every two, three, or four hours.

Of the cases treated by salicylates, 515 are from the records of St. Bartholomew's Hospital, collected for me by my friend, Mr. Herbert Menzies . . . I here take the opportunity to express my gratitude to the members of the staff of that hospital, for having so generously and cordially accorded me permission to make use of their valuable clinical records, for the purposes of my investigations on the treatment of acute rheumatism.

The remaining cases are, without exception, drawn from the reports of Guy's Hospital.

All the cases tabulated and arranged for comparison deal absolutely with acute sthenic rheumatism, occurring in patients of both sexes, under thirty-five years of age. I insist upon this latter limitation as being of great clinical importance. Subsequently to that period of life, attacks of acute rheumatism are prone to assume anomalous forms, and frequently its clinical course will be found to approach that of the so-called gouty state. Even if the symptoms of the initial attack closely simulate those of acute rheumatism, they are frequently followed by anomalous symptoms

often of a gouty character. This is the more patent if a relapse follows the primary seizure, and each relapse may be more or less marked by this change of type.

Cases generally described as sub-acute, without febrile disturbance, are not included in any of the tables. With the above reservation all cases have been taken without selection, *seriatim*, from the clinical records of Guy's and Bartholomew's.

It cannot be denied that the annals of medicine do not contain another instance in which the treatment of an acute specific disease has been so influenced as has been the treatment of acute rheumatism since the introduction of the salicylates.

From a close and attentive study of acute rheumatism, since the introduction of salicine, I say with all boldness, that we have no parallel instance in the history of medicine—even including the treatment of syphilis and ague, where an acute specific disease has been treated from such a purely specific standpoint.

Such being the case, and while fully admitting the disadvantage inherent in the statistical method for ascertaining the result of treatment, we should now be in the position to produce without difficulty, overwhelming evidence as to the results, good or otherwise, of the treatment of acute rheumatism by the salicylates.

Few physicians would question the result of an inquiry based upon statistics into the specific treatment of syphilis or ague. Such an inquiry would, without doubt, firmly establish the efficacy of quinine on the one hand, and iodine on the other, the larger the number of collected cases, the more firmly would the position be maintained. So must be the case with an inquiry into the treatment of acute rheumatism, even if such an investigation be based largely upon figures. There must assuredly be certain broad facts capable of demonstration, and the greater the number of facts produced, the more certain will be the results, and the less the danger of error from a consideration of insufficient data.

In acute rheumatism we have a disease, the different treatment of which we can compare the one with the other.

It is a disease marked with but little individual peculiarity; it runs a fairly definite course; a course, moreover, which is attended by complications, regular and well understood. It is a disease in which the mortality is very low. It is, in fact, one of those diseases of which the natural history of the acute attack, is as well known as any we are called upon to treat.

Hence we may with reason expect to obtain help from a statistical enquiry into the relative advantages or disadvantages of different methods of treatment, and *à fortiori* we should be able to compare treatment directly specific with that which is more general and comprehensive. In comparing the respective values of treatment in acute rheumatism, there are several points which demand attention.

Briefly, they are:—The suffering attending the joint effusion. The relative liability to cardiac complication. The disturbances referable to the nervous system, under which head I include that serious complication known as hyperpyrexia.

The relative duration of the illness when treated by different methods is also a matter which comes into the enquiry, although it must, of necessity, be an unsatisfactory one, depending, as it does, largely upon variations in weather, which in the majority of cases are beyond our power of estimating.

The only means at our disposal for estimating the total duration of illness being the date of the patient's discharge from hospital, a date which depends, not only on climatic conditions, but also much more largely than would be supposed upon the number of vacancies occurring at the various convalescent homes to which rheumatic patients are now so generally sent, subsequently to the acute attack.

This fact has to be taken into consideration, when estimating the duration of illness in the present day, and especially when a comparison is made between the length of illness at that time, when convalescent homes were not so general as they are now.

In comparing the relative results of treatment with regard to the pain or suffering due to the joint effusion, there cannot for a moment be any doubt but that a very large majority of patients under the influence of salicylate of soda—and here I would say, that in all future reference to salicylate, this drug will be the one referred to—experience a marked, and often immediate, diminution or even cessation of joint pain. Parallel with this rapid loss of pain is frequently an equally rapid fall in temperature. A glance at Tables I and II will bring this fact into marked prominence.

TABLE 1.—*Patients treated without Salicylates.*

TABLE A—Shewing duration of illness and day pain ceased in 616 patients treated from commencement of attack without salicylates.

TABLE B—Shewing proportion of patients suffering from cardiac complications.

TABLE C—Shewing the effect of cardiac complications upon the duration of the attack.

TABLE A.

|                                 | Discharged on 10th day or under. | Discharged between 20th & 10th. | Discharged between 30th & 20th. | Discharged between 40th & 30th. | Discharged between 50th & 40th. | Ill longer than 50 days. |
|---------------------------------|----------------------------------|---------------------------------|---------------------------------|---------------------------------|---------------------------------|--------------------------|
| Pain ceasing on first day ..... | — ..                             | — ..                            | 1 ..                            | 2 ..                            | — ..                            | —                        |
| Second day .....                | 5 ..                             | 6 ..                            | 2 ..                            | — ..                            | 1 ..                            | 1                        |
| Third day.....                  | — ..                             | 8 ..                            | 7 ..                            | 2 ..                            | — ..                            | 5                        |
| Fourth day .....                | 1 ..                             | 6 ..                            | 10 ..                           | 1 ..                            | 3 ..                            | 1                        |
| Fifth or sixth .....            | 7 ..                             | 23 ..                           | 19 ..                           | 12 ..                           | 8 ..                            | 10                       |
| Seventh or eighth..             | 1 ..                             | 14 ..                           | 20 ..                           | 22 ..                           | 7 ..                            | 7                        |
| Ninth to sixteenth.             | — ..                             | 27 ..                           | 53 ..                           | 52 ..                           | 30 ..                           | 22                       |
| Seventeenth to twenty-second .. | — ..                             | 4 ..                            | 21 ..                           | 36 ..                           | 19 ..                           | 21                       |
| Subsequent to twenty-second ..  | — ..                             | — ..                            | 2 ..                            | 15 ..                           | 38 ..                           | 65                       |
| Totals .....                    | 14 ..                            | 88 ..                           | 135 ..                          | 142 ..                          | 106 ..                          | 132                      |

TABLE B.

|                                   | Without complications. | With complications. | Total. |
|-----------------------------------|------------------------|---------------------|--------|
| Losing pain first day .....       | — ..                   | 3 ..                | 3      |
| Second day .....                  | 6 ..                   | 8 ..                | 14     |
| Third day .....                   | 9 ..                   | 13 ..               | 22     |
| Fourth day .....                  | 9 ..                   | 13 ..               | 22     |
| Fifth and sixth.....              | 42 ..                  | 37 ..               | 79     |
| Seventh and eighth .....          | 33 ..                  | 33 ..               | 71     |
| Ninth to fifteenth.....           | 75 ..                  | 109 ..              | 184    |
| Sixteenth to twenty-second.....   | 28 ..                  | 73 ..               | 101    |
| Subsequent to twenty-second ..... | 49 ..                  | 71 ..               | 120    |
| Totals.....                       | 251                    | 365                 | 616    |

TABLE C.

|                                   | 102 patients discharged<br>from hospital under 20<br>days. |                             | 277 patients discharged<br>from hospital under 40<br>days. |                             | 237 patients ill longer<br>than 40 days. |                             |
|-----------------------------------|------------------------------------------------------------|-----------------------------|------------------------------------------------------------|-----------------------------|------------------------------------------|-----------------------------|
|                                   | Without<br>cardiac com-<br>plications.                     | With<br>com-<br>plications. | Without<br>cardiac com-<br>plications.                     | With<br>com-<br>plications. | Without<br>cardiac com-<br>plications.   | With<br>com-<br>plications. |
| Pain ceasing first<br>day.....    | — ..                                                       | — ..                        | — ..                                                       | 3 ..                        | — ..                                     | — ..                        |
| Second day .....                  | 4 ..                                                       | 7 ..                        | 2 ..                                                       | — ..                        | — ..                                     | 1 ..                        |
| Third day .....                   | 4 ..                                                       | 4 ..                        | 3 ..                                                       | 6 ..                        | 2 ..                                     | 3 ..                        |
| Fourth day .....                  | 3 ..                                                       | 4 ..                        | 6 ..                                                       | 5 ..                        | — ..                                     | 4 ..                        |
| Fifth and sixth...                | 21 ..                                                      | 9 ..                        | 16 ..                                                      | 15 ..                       | 5 ..                                     | 13 ..                       |
| Seventh and eighth                | 9 ..                                                       | 6 ..                        | 21 ..                                                      | 21 ..                       | 3 ..                                     | 11 ..                       |
| Ninth to sixteenth                | 17 ..                                                      | 10 ..                       | 48 ..                                                      | 57 ..                       | 11 ..                                    | 41 ..                       |
| Seventeenth to<br>twenty-second.. | 2 ..                                                       | 2 ..                        | 21 ..                                                      | 36 ..                       | 5 ..                                     | 35 ..                       |
| Subsequent to<br>twenty-second..  | — ..                                                       | — ..                        | 5 ..                                                       | 12 ..                       | 45 ..                                    | 58 ..                       |
| Totals .....                      | 60 ..                                                      | 42 ..                       | 122 ..                                                     | 155 ..                      | 71 ..                                    | 166 ..                      |

TABLE 2.—Patients treated with Salicylates.

TABLE A—Shewing duration of illness and day pain ceased in 728 patients treated from commencement of attack by Salicylates.

TABLE B—Shewing proportion of these patients suffering from cardiac complication.

TABLE C—Shewing the effect of cardiac complications upon duration of illness.

TABLE A.

|                                    | Discharged<br>on 10th day<br>or under. | Discharged<br>between<br>20th & 10th. | Discharged<br>between<br>30th & 20th. | Discharged<br>between<br>40th & 30th. | Discharged<br>between<br>50th & 40th. | Ill longer<br>than 50<br>days |
|------------------------------------|----------------------------------------|---------------------------------------|---------------------------------------|---------------------------------------|---------------------------------------|-------------------------------|
| Pain ceased on first<br>day.....   | 4 ..                                   | 22 ..                                 | 22 ..                                 | 12 ..                                 | 8 ..                                  | 7 ..                          |
| Second day .....                   | 7 ..                                   | 54 ..                                 | 74 ..                                 | 32 ..                                 | 29 ..                                 | 15 ..                         |
| Third day .....                    | 5 ..                                   | 25 ..                                 | 49 ..                                 | 29 ..                                 | 13 ..                                 | 14 ..                         |
| Fourth day .....                   | 1 ..                                   | 14 ..                                 | 20 ..                                 | 11 ..                                 | 10 ..                                 | 12 ..                         |
| Fifth or sixth ....                | — ..                                   | 14 ..                                 | 37 ..                                 | 20 ..                                 | 9 ..                                  | 13 ..                         |
| Seventh or eighth..                | — ..                                   | 7 ..                                  | 13 ..                                 | 19 ..                                 | 5 ..                                  | 11 ..                         |
| Ninth to sixteenth .               | — ..                                   | 5 ..                                  | 18 ..                                 | 11 ..                                 | 12 ..                                 | 13 ..                         |
| Seventeenth to<br>twenty-second .. | — ..                                   | — ..                                  | 6 ..                                  | 6 ..                                  | 2 ..                                  | 5 ..                          |
| Subsequent to<br>twenty-second ..  | — ..                                   | — ..                                  | 1 ..                                  | 2 ..                                  | 4 ..                                  | 6 ..                          |
| Totals .....                       | 17 ..                                  | 141 ..                                | 240 ..                                | 142 ..                                | 92 ..                                 | 96 ..                         |

TABLE B.

|                              | Without complications. |    | With complications. |    |           |    | Total. |
|------------------------------|------------------------|----|---------------------|----|-----------|----|--------|
|                              |                        |    |                     |    | Relapsed. |    |        |
| Lost pain on first day ..... | 39                     | .. | 36                  | .. | 14        | .. | 75     |
| Second day .....             | 116                    | .. | 95                  | .. | 40        | .. | 211    |
| Third day .....              | 53                     | .. | 82                  | .. | 31        | .. | 135    |
| Fourth day .....             | 28                     | .. | 40                  | .. | 23        | .. | 68     |
| Fifth or sixth .....         | 44                     | .. | 49                  | .. | 29        | .. | 93     |
| Seventh or eighth .....      | 23                     | .. | 32                  | .. | 17        | .. | 55     |
| Ninth to sixteenth .....     | 30                     | .. | 29                  | .. | —         | .. | 59     |
| Sixteenth to twenty-second.. | 6                      | .. | 13                  | .. | —         | .. | 19     |
| Subsequent to twenty-second  | 4                      | .. | 9                   | .. | —         | .. | 13     |
| Totals.....                  | 343                    | .. | 385                 | .. | —         | .. | 728    |

TABLE C.

|                                        | 158 patients discharged from hospital under 20 days. |    |                               |    | 332 patients discharged from hospital under 40 days. |    |                               |    | 188 patients ill longer than 40 days. |    |                               |  |
|----------------------------------------|------------------------------------------------------|----|-------------------------------|----|------------------------------------------------------|----|-------------------------------|----|---------------------------------------|----|-------------------------------|--|
|                                        | Without com- plications.                             |    | With cardiac com- plications. |    | Without com- plications.                             |    | With cardiac com- plications. |    | Without com- plications.              |    | With cardiac com- plications. |  |
|                                        |                                                      |    |                               |    |                                                      |    |                               |    |                                       |    |                               |  |
| Pain ceasing on first day .....        | 16                                                   | .. | 10                            | .. | 14                                                   | .. | 20                            | .. | 8                                     | .. | 7                             |  |
| Second day .....                       | 34                                                   | .. | 27                            | .. | 61                                                   | .. | 45                            | .. | 19                                    | .. | 25                            |  |
| Third day .....                        | 14                                                   | .. | 16                            | .. | 30                                                   | .. | 48                            | .. | 7                                     | .. | 20                            |  |
| Fourth day .....                       | 7                                                    | .. | 8                             | .. | 13                                                   | .. | 18                            | .. | 8                                     | .. | 14                            |  |
| Fifth or sixth day..                   | 7                                                    | .. | 7                             | .. | 26                                                   | .. | 31                            | .. | 11                                    | .. | 11                            |  |
| Seventh or eighth..                    | 4                                                    | .. | 3                             | .. | 13                                                   | .. | 19                            | .. | 6                                     | .. | 10                            |  |
| Between ninth and sixteenth.....       | 3                                                    | .. | 2                             | .. | 17                                                   | .. | 12                            | .. | 10                                    | .. | 15                            |  |
| Between seventeenth and twenty-first.. | —                                                    | .. | —                             | .. | 3                                                    | .. | 9                             | .. | 3                                     | .. | 4                             |  |
| Subsequent to twenty-first.....        | —                                                    | .. | —                             | .. | 2                                                    | .. | 1                             | .. | 2                                     | .. | 8                             |  |
| Totals.....                            | 85                                                   | .. | 73                            | .. | 179                                                  | .. | 203                           | .. | 74                                    | .. | 114                           |  |

In Table 1 are grouped 616 cases treated without salicylates. This table should be compared with Table 2, which contains 728 cases treated from admission into hospital, with salicylates. From examination of these tables,\* we ascertain that of the 728 patients so treated, 582 lost their pain within seven days, making full allowance for the heavy list of relapses, namely, 137, or 18 per cent. of the total number. These figures dwarf those of the first table into insignificance, for there we find that in the case of 612 patients treated on general principles, 140 *only* lost their pain within a similar period of time.

\* Further details of the cases from which these tables have been compiled will be found at the end of the paper.

Complete relief from pain *within three days* was noted in 300 patients treated at St. Bartholomew's, out of a total of 515. The effect was not, however, stable in all these cases, for I find that 40 per cent. relapsed. (I should add that the term relapse has only been made use of where there has been a decided recrudescence of illness, accompanied by a rise of temperature above 100°, and painful joints, the condition lasting longer than twenty-four hours.)

In the case of many patients taking salicylates, I notice that pain and stiffness of joints is complained of subsequently to the fall of temperature. Such conditions are well known in acute rheumatism treated by all known methods, but as far as my inquiry leads me, the complaint appears more general from patients taking salicylates. I have not, however, included any of these indefinite cases in the table which deals with all those relapses which have occurred among the total number of cases under consideration.

#### *Relapsing Table.*

Shewing name, age of patient, day pain ceased, length of illness before treatment commenced, and total stay in hospital.

850 cases treated without salicylates, 34 relapsed, total duration being 1,966 days in hospital, averaging 57 days for each patient.

1,250 cases treated with salicylates, 182 relapsed, total duration being 8,335 days in hospital, averaging 45 days for each patient.

#### PATIENTS TREATED WITHOUT SALICYLATES.

| Name. | Age. | Day pain ceased. | Days ill before admission. | Duration, days. | Name. | Age. | Day pain ceased. | Days ill before admission. | Duration, days. |
|-------|------|------------------|----------------------------|-----------------|-------|------|------------------|----------------------------|-----------------|
| T. R. | 26   | 27               | 4                          | 72              | S. R. | 24   | 16               | 4                          | 36              |
| A. B. | 25   | 24               | 13                         | 41              | C. R. | 9    | ?                | 5                          | 44              |
| W. L. | 20   | 29               | 22                         | 64              | W. B. | 24   | ?                | 21                         | 113             |
| T. W. | 23   | 21               | 49                         | 46              | G. H. | 15   | ?                | ?                          | 73              |
| F. H. | 16   | 5                | 7                          | 66              | N. J. | 31   | 20               | 14                         | 61              |
| C. A. | 34   | 3                | 4                          | 65              | E. A. | 30   | 4                | 90                         | 46              |
| R. H. | 19   | 10               | 10                         | 61              | H. S. | 21   | 4                | 4                          | 71              |
| M. S. | 29   | 14               | 14                         | 46              | A. S. | 18   | 16               | 7                          | 32              |
| F. L. | 30   | 12               | 7                          | 26              | J. B. | 30   | 7                | 6                          | 30              |
| J. D. | 16   | 7                | 9                          | 45              | J. W. | 16   | 23               | 5                          | 34              |
| E. A. | 17   | 39               | 4                          | 92              | G. G. | 19   | 62               | 4                          | 81              |
| L. W. | 24   | ?                | 8                          | 47              | P. L. | 11   | 32               | 7                          | 35              |
| R. F. | 27   | 29               | 7                          | 57              | D. H. | 28   | 6                | 9                          | 69              |

PATIENTS TREATED WITHOUT SALICYLATES—*cont.*

| Name. | Age. | Day pain ceased. | Days ill before admission. | Duration, days. | Name. | Age. | Day pain ceased. | Days ill before admission. | Duration, days. |
|-------|------|------------------|----------------------------|-----------------|-------|------|------------------|----------------------------|-----------------|
| L. H. | 12   | 17               | 3                          | 37              | W. B. | 24   | 16               | 28                         | 83              |
| A. M. | 19   | 11               | 4                          | 38              | E. S. | 23   | 29               | 8                          | 57              |
| E. C. | 17   | ?                | 31                         | 120             | S. R. | 17   | 9                | 14                         | 81              |
| R. C. | 29   | 19               | 10                         | 26              | F. H. | 19   | 9                | 7                          | 69              |

34 cases, 1,966 days, average 57 days.

## PATIENTS TREATED WITH SALICYLATES.

|       |    |    |    |     |       |    |    |    |     |
|-------|----|----|----|-----|-------|----|----|----|-----|
| S. S. | 17 | 2  | 4  | 39  | G. W. | 29 | 10 | 11 | 45  |
| C. D. | 22 | 5  | 3  | 57  | A. P. | 18 | 6  | 7  | 41  |
| E. C. | 20 | 4  | 3  | 56  | H. F. | 21 | 10 | 10 | 57  |
| E. A. | 24 | 1  | 2  | 48  | E. G. | 21 | 10 | 9  | 66  |
| E. H. | 27 | ?  | 6  | 13  | W. B. | 23 | 3  | 6  | 33  |
| J. R. | 20 | 9  | 6  | 43  | N. L. | 17 | 12 | 35 | 82  |
| J. A. | 23 | 3  | 4  | 59  | R. W. | 31 | 1  | 28 | 25  |
| D. B. | 25 | 2  | 3  | 54  | J. C. | 26 | 8  | 14 | 53  |
| J. A. | 30 | 2  | 14 | 37  | M. G. | 17 | 7  | 14 | 28  |
| C. J. | 26 | 2  | 5  | 52  | H. C. | 21 | 3  | 14 | 43  |
| L. T. | 24 | 2  | 6  | 50  | B. D. | 20 | 4  | 7  | 21  |
| T. W. | 20 | 2  | 7  | 31  | G. M. | 20 | 2  | 5  | 12  |
| H. P. | 23 | 3  | 21 | 41  | M. S. | 10 | 1  | 15 | 27  |
| E. L. | 19 | 8  | 41 | 105 | H. H. | 16 | 2  | 3  | 53  |
| S. J. | 30 | 4  | 11 | 50  | E. C. | 16 | 2  | 4  | 42  |
| E. H. | 17 | 6  | 3  | 37  | H. B. | 19 | 2  | 10 | 21  |
| E. F. | 24 | 2  | 7  | 21  | J. H. | 13 | 1  | 4  | 51  |
| S. E. | 25 | 2  | 14 | 42  | B. A. | 32 | 3  | 6  | 20  |
| H. A. | 22 | 2  | 7  | 44  | J. P. | 28 | 1  | 21 | 53  |
| E. R. | 25 | 2  | ?  | 54  | F. R. | 24 | 3  | 11 | 17  |
| E. S. | 14 | 2  | 4  | 14  | J. S. | 17 | 2  | 14 | 43  |
| E. S. | 14 | 5  | 2  | 26  | A. B. | 15 | 2  | 6  | 43  |
| A. P. | 17 | 16 | 6  | 114 | G. M. | 30 | 1  | 4  | 44  |
| D. P. | 19 | 2  | 28 | 70  | J. P. | 26 | 4  | 14 | 38  |
| A. S. | 30 | 9  | 5  | 29  | J. P. | 22 | 3  | 13 | 29  |
| D. M. | 15 | 4  | 4  | 68  | C. B. | 15 | 1  | 42 | 44  |
| C. N. | 26 | 6  | 35 | 26  | G. J. | ?  | 2  | 21 | 20  |
| M. E. | 21 | 5  | 8  | 89  | A. B. | ?  | 2  | 3  | 19  |
| C. B. | 21 | 3  | 2  | 23  | J. S. | 22 | 2  | 6  | 68  |
| B. W. | 20 | 1  | 7  | 104 | E. P. | 15 | 2  | 21 | 18  |
| H. F. | 20 | 4  | 4  | 164 | E. K. | 20 | 7  | 14 | 43  |
| S. C. | 17 | 3  | 3  | 48  | E. K. | 14 | 8  | 8  | 46  |
| K. H. | 18 | ?  | 21 | 34  | A. B. | 18 | 7  | 12 | 37  |
| A. S. | 17 | 5  | 3  | 87  | C. G. | 22 | 1  | 5  | 29  |
| N. H. | 15 | 2  | 4  | 44  | E. C. | 15 | 2  | 28 | 52  |
| J. L. | 15 | 1  | 7  | 43  | L. B. | 19 | 3  | 14 | 67  |
| B. T. | 10 | 3  | 14 | 44  | J. B. | 14 | 2  | 7  | 53  |
| M. S. | 28 | 5  | 7  | 40  | S. J. | 27 | 2  | 21 | 34  |
| E. M. | 24 | 20 | ?  | 34  | E. B. | 14 | 9  | 5  | 46  |
| E. H. | 13 | 4  | 1  | 41  | L. B. | 21 | 3  | 11 | 26  |
| P. B. | 15 | 8  | 3  | 32  | E. H. | 22 | 6  | 14 | 28  |
| W. W. | 15 | ?  | 21 | 32  | L. C. | 13 | 5  | 7  | 42  |
| R. L. | 25 | 4  | 6  | 47  | F. H. | 21 | 3  | 14 | 76  |
| M. N. | 23 | 19 | 14 | 32  | S. M. | 19 | 3  | 2  | 122 |
| R. T. | 23 | 11 | 14 | 34  | J. P. | 21 | 10 | 7  | 27  |

PATIENTS TREATED WITH SALICYLATES—*cont.*

| Name. | Age. | Day<br>pain<br>ceased. | Days ill<br>before<br>admission. | Duration,<br>days. | Name. | Age. | Day<br>pain<br>ceased. | Days ill<br>before<br>admission. | Duration,<br>days. |
|-------|------|------------------------|----------------------------------|--------------------|-------|------|------------------------|----------------------------------|--------------------|
| A. J. | 21   | 4                      | 4                                | 68                 | A. S. | 15   | 3                      | 6                                | 37                 |
| W. C. | 33   | 1                      | 10                               | 106                | R. T. | 13   | 3                      | 4                                | 28                 |
| E. W. | 35   | 1                      | 7                                | 37                 | C. W. | 14   | 2                      | 3                                | 49                 |
| W. M. | 27   | 3                      | 6                                | 81                 | H. F. | 23   | 4                      | 5                                | 35                 |
| B. R. | 34   | 3                      | 10                               | 40                 | A. S. | 25   | 5                      | 7                                | 20                 |
| E. B. | 32   | 7                      | 7                                | 41                 | T. B. | 32   | 5                      | 6                                | 26                 |
| J. M. | 16   | 2                      | 3                                | 39                 | H. B. | 17   | 8                      | ?                                | 82                 |
| E. B. | 21   | 5                      | ?                                | 25                 | A. H. | 21   | 6                      | 5                                | 34                 |
| S. B. | 23   | ?                      | 14                               | 37                 | R. K. | 15   | 2                      | 5                                | 51                 |
| J. J. | 14   | 3                      | 21                               | 60                 | E. W. | 14   | 2                      | 2                                | 82                 |
| E. J. | 22   | 5                      | 5                                | 34                 | A. T. | 21   | 10                     | 42                               | 50                 |
| J. P. | 31   | 2                      | 4                                | 40                 | W. D. | 28   | 2                      | 5                                | 23                 |
| T. W. | 27   | 4                      | 4                                | 49                 | D. D. | 11   | 3                      | 3                                | 34                 |
| J. C. | 14   | 3                      | 2                                | 46                 | C. H. | 17   | 4                      | 2                                | 30                 |
| H. B. | 31   | ?                      | 56                               | 60                 | A. H. | 14   | 44                     | 14                               | 91                 |
| E. M. | 19   | 1                      | 7                                | 67                 | W. B. | 11   | 4                      | 5                                | 30                 |
| W. A. | 23   | 4                      | 14                               | 62                 | J. A. | 30   | 5                      | 2                                | 33                 |
| M. M. | 20   | 6                      | 14                               | 58                 | C. B. | 21   | 11                     | 6                                | 57                 |
| H. S. | 31   | 4                      | 1                                | 65                 | S. G. | 30   | 4                      | 21                               | 46                 |
| K. L. | 13   | 1                      | ?                                | 54                 | A. E. | 15   | 9                      | 21                               | 58                 |
| E. C. | 21   | 3                      | 5                                | 45                 | F. N. | 28   | 5                      | 2                                | 110                |
| A. C. | 18   | 2                      | 4                                | 32                 | E. H. | 22   | 4                      | 7                                | 47                 |
| E. O. | 18   | 2                      | 14                               | 36                 | E. H. | 25   | 3                      | ?                                | 28                 |
| M. H. | 30   | 5                      | 3                                | 36                 | H. F. | 23   | 38                     | 5                                | 47                 |
| L. B. | 14   | 2                      | 5                                | 50                 | W. W. | 35   | 4                      | 42                               | 79                 |
| E. W. | 15   | 4                      | 21                               | 16                 | G. H. | 31   | 8                      | 3                                | 32                 |
| B. N. | 19   | 10                     | 6                                | 57                 | W. S. | 23   | 4                      | 10                               | 24                 |
| E. H. | 16   | 12                     | 11                               | 62                 | J. B. | 30   | 4                      | 5                                | 23                 |
| N. W. | 21   | 7                      | 3                                | 30                 | J. B. | 30   | 3                      | 1                                | 18                 |
| R. H. | 25   | 2                      | 2                                | 22                 | A. O. | 18   | 3                      | ?                                | 23                 |
| F. P. | 19   | 4                      | 6                                | 44                 | E. D. | 10   | 3                      | 28                               | 52                 |
| N. C. | 19   | 3                      | 6                                | 39                 | H. L. | 14   | 3                      | 5                                | 76                 |
| J. B. | 23   | 2                      | 8                                | 33                 | J. R. | 20   | 7                      | 28                               | 29                 |
| S. O. | 23   | 5                      | 28                               | 60                 | G. T. | 27   | 5                      | 1                                | 34                 |
| M. D. | 18   | 2                      | 12                               | 24                 | H. C. | 13   | 6                      | 7                                | 57                 |
| J. W. | 15   | 2                      | 6                                | 48                 | N. L. | 23   | 3                      | 8                                | 49                 |
| E. W. | 15   | 8                      | 9                                | 43                 | M. F. | 26   | 6                      | 3                                | 68                 |
| A. K. | 28   | 2                      | 11                               | 45                 | M. S. | 30   | 7                      | 35                               | 13                 |
| J. S. | 24   | 4                      | 42                               | 23                 | A. L. | 30   | 5                      | 8                                | 47                 |
| C. H. | 19   | 6                      | 3                                | 53                 | E. K. | 18   | 12                     | 9                                | 68                 |
| J. V. | 25   | 8                      | 14                               | 28                 | M. P. | 35   | 3                      | 21                               | 73                 |
| W. K. | 27   | 10                     | 84                               | 50                 | C. S. | 26   | 18                     | 21                               | 32                 |
| G. G. | 20   | 2                      | 5                                | 41                 | J. G. | 21   | 2                      | 8                                | 64                 |
| A. G. | 20   | 6                      | 12                               | 94                 | M. R. | 26   | 6                      | 8                                | 26                 |
| H. R. | 20   | 7                      | 4                                | 39                 | E. C. | 20   | 3                      | 7                                | 41                 |
| J. S. | 16   | 6                      | 4                                | 46                 | W. H. | 19   | 7                      | 10                               | 38                 |

182 cases, 8,335 total duration, average, 45 days.

We find here that of 850 patients treated on general principles, 34 relapsed, whereas in the case of 1,250 patients under salicylate 182 relapsed.

It must not be forgotten that in a large majority of these cases the attack consequent upon the relapse is much more pronounced, and of much longer duration, than that seen at the initial seizure.

Tables 1 and 2 will be found sub-divided under heads A, B, and C, and show in addition to the comparative duration of pain, the total number of cases suffering from cardiac complication, and the effect such complication has upon the total duration of illness.

The relative frequency with which the course of acute rheumatism is complicated by cardiac affections is, perhaps, the most important point for inquiry when different methods of treatment are under consideration.

Many observers have investigated the matter with regard to the treatment of rheumatism prior to the introduction of salicylates. Although they do not exactly agree as to the ratio of heart disease to the acute seizure, there is but little difference in their individual estimates, and I think it may be stated without error that from 50 to 60 per cent. of patients suffering from acute rheumatism are also subjects of heart complication of some form or other. With this estimate my own figures will be found to agree closely.

With regard to this part of the inquiry I have endeavoured, with the greatest care, to avoid error, and I think my figures may be looked upon as being substantially correct, especially when the large number of cases dealt with is taken into consideration.

I have, however, found it impossible to differentiate closely between the different forms of heart disease, so that under the heading cardiac complication are included all the various inflammatory lesions of heart and pericardium met with in acute rheumatism.

In comparing the Section B of Tables 1 and 2, it will be found that among 616 patients treated without salicylates, 365 were affected with heart disease.

In the case of 728 patients treated with salicylates, 385 were so affected.

So far the comparison is in favour of the specific treatment, but if the total number of cases be taken, the comparison is not so favourable to the specific treatment.

Among 850 patients treated without salicylates, 500 were the subjects of cardiac complication.

Taking the salicylate cases in series as collected by me, we find that in 328 cases from Guy's 190 had cardiac complication. In a second series of cases from Guy's of 360 cases, 241 had cardiac complication, and, again, of the 515 cases from St. Bartholomew's, 316 were noted as suffering from cardiac complication.

A study of these figures, which I have purposely reported in series, shows how extremely difficult it is to form any exact numerical estimate of the comparative frequency with which the heart is affected in acute rheumatism. Taking any one of these series by itself, we should arrive at a different conclusion to that obtained by considering the cases in aggregate.

If the total number of cases be considered, we find that under salicylate treatment slightly over 60 per cent. of patients are affected with cardiac complication, whereas patients treated without the drug show a slightly lower rate. Practically these percentage values agree and probably enforce the impression gained by studying a large number of cases, *that salicylates have no effect whatever in either reducing, preventing, or limiting the intensity of cardiac inflammation occurring during the course of acute rheumatism.*

In the discussion which took place before the Medical Society of London, in December, 1882, Dr. Gilbert Smith brought forward figures comparing the amount of heart disease present among patients treated with and without salicylates.

He states that among 1,727 patients treated without salicylates 54 per cent. were affected with some form or other of heart-disease, whereas in two groups of cases treated with salicylates, and representing a gross total of 1,162 patients, 60 and 68 per cent. were affected with cardiac complication.

It must not, however, be overlooked that acute rheumatism, like many other specific diseases, apparently appears in cycles of comparative intensity. For a time, case after case may be seen of mild character, with tendency to rapid defervescence, whereas at another time we see the disease in a more intense form; it is during the period of intensity that the liability to cardiac complication is enormously increased.

With reference to the liability to cardiac complication much importance is attached by me to the series of cases collected from St. Bartholomew's. From the method adopted at that hospital for the supervision of clinical reports, great accuracy of detail is obtained.

A better standpoint could not be taken than is afforded by this carefully reported series of cases, for attempting to form an estimate of the comparative frequency of heart disease among patients treated *ab initio* with full doses of salicylate of soda.

From these 515 cases, of which 316 had affection of heart, we learn that 253 were females and 262 males. Of the females, 127 were affected with valvular mischief, and 31 had pericarditis.

Among the men, 115 suffered from endocarditis, and 43 from pericarditis.

12 men and 11 women were noted as suffering from pulmonary complication.

110 men and 115 women had suffered from previous attacks of acute rheumatism.

It has long been recognised that the liability to heart disease is far greater in early life, and at the commencement of the acute attack, in fact, it is well known that a large majority of the patients are subjects of the cardiac mischief at the time of their admission.

In estimating the value of a remedy, attention must be given to the power it may possess in warding off heart disease. No remedy could be expected to have retrospective action. It is, therefore, those cases in which no heart disease was present on admission that the action of a remedy must be carefully watched.

From the records of St. Bartholomew's I have collected ninety-five cases in which on admission no symptoms of heart lesion could be detected, but in all of which endocarditis or pericarditis subsequently developed with more or less intensity.

These cases are tabulated as follows:—

Table shewing duration of illness in days, *before admission to Hospital* in 95 cases in which heart disease was carefully noted as occurring *after admission*, and in which the patient was fully under the influence of salicylates.

| Days.—                                            | 1 | 2 | 3 | 4  | 5  | 6  | 7  | 8 | 9 | 10 | 11 | 12 | 14 | 16 | 20 | 21 | 28 | 56 |    |
|---------------------------------------------------|---|---|---|----|----|----|----|---|---|----|----|----|----|----|----|----|----|----|----|
| No. of Patients.—                                 | 1 | 5 | 5 | 10 | 11 | 10 | 14 | 3 | 1 | 6  | 1  | 1  | 13 | 1  | 2  | 9  | 4  | 1  |    |
| Ill 7 days and less . . . . .                     |   |   |   |    |    |    |    |   |   |    |    |    |    |    |    |    |    |    | 53 |
| Ill more than 7 days, less than 15 days . . . . . |   |   |   |    |    |    |    |   |   |    |    |    |    |    |    |    |    |    | 25 |
| Ill longer than 14 days . . . . .                 |   |   |   |    |    |    |    |   |   |    |    |    |    |    |    |    |    |    | 17 |
|                                                   |   |   |   |    |    |    |    |   |   |    |    |    |    |    |    |    |    |    | —  |
|                                                   |   |   |   |    |    |    |    |   |   |    |    |    |    |    |    |    |    |    | 95 |

These patients were, without exception, treated with salicylates,

and they are placed in the accompanying table. It will be seen from this table that fifty-three were under treatment within one week of the actual commencement of the illness.

I have no corresponding information to offer with respect to patients treated on general principles, but the fact, that out of a total of 515 cases, 95 developed cardiac disease, after being placed on a specific course of treatment, is at least strong presumptive evidence that the remedy is not specific against the cardiac complication.

Again, in attempting to form any accurate estimate of the relative frequency of heart disease in acute rheumatism, it is of essential importance to differentiate between those patients who are the subjects of a primary attack and those who have suffered from previous acute rheumatism.

Of 516 patients, the subjects of primary rheumatism, and treated entirely without salicylates, 290 were affected with cardiac mischief.

Taking the cases under salicylate treatment in the series as collected we have the following proportions:—Of 181 patients, 105 affected; of 264 patients, 159 affected; and of 291 patients, 138 affected. Massing these cases together we find the total to be as follows:—Of 516 cases treated without salicylate, 290 were the subjects of cardiac complication, and of 736 cases treated with salicylate, 402 were found to have heart disease. The proportion between these two groups is almost identical.

These figures, and although figures only, they represent facts, are disappointing, for, using the words of Dr. Bristowe "If salicylate be specific against the rheumatic state, it should be specific against its component parts," *ergo*, the patients treated by the remedy should show a proportionate decrease in their liability to heart disease.

While granting fully the power which the drug possesses in moderating the course of acute rheumatism, *the assumption that with such power, there is a corresponding beneficial result as to cardiac complication, cannot be supported by the records from which I have drawn my cases.*

Important as must be the inquiry into the relative frequency with which acute rheumatism is complicated by inflammatory affections of the heart, the inquiry would be rendered more complete, and of far greater value, if we could ascertain, not only the relative

frequency, but the relative intensity and permanence of the cardiac attack. I should have much liked to have supplemented my notes from this point of view, but can only do so partially, and in an unsatisfactory manner, by attempting to estimate the violence of the cardiac lesion by its effect upon the length of the patient's illness, as measured by the time spent in hospital.

The effect of cardiac complication upon the duration of the attack is numerically considered in Tables 1 and 2 under heading C of each Table.

With regard to the permanence of the attack, I can offer no information, important as the matter is to the individual sufferer, of far more importance than all other factors of the attack. It is but so seldom referred to in the clinical reports, that I have found it impossible to make any exact data.

The condition of the heart immediately before the patient is discharged from hospital, is a matter upon which the majority of reports are silent, and it is therefore impossible to estimate the relative permanence of any valvular lesion, which may have been referred to during the treatment of the patient.

Attempting to gain information as to the effect of the length of illness before admission, and, of course, in a very large majority of cases, before the patient was placed under treatment, specific or otherwise, I have tabulated 1,089 cases, 507 treated without salicylates, and 582 with that drug.

*Table stating the Length of Illness previous to Patient's Admission into Hospital, and the consequent Influence on the Total Duration of the Attack. 507 Cases treated without Salicylates; 582 with Salicylates.*

## COMPARATIVE AVERAGES.

| <i>Without Salicylates.</i>                                              |                                                        | <i>With Salicylates.</i>                                                 |                                                        |
|--------------------------------------------------------------------------|--------------------------------------------------------|--------------------------------------------------------------------------|--------------------------------------------------------|
| 291 Patients ill before admission 7 days or less.                        |                                                        | 403 Patients ill before admission 7 days or less.                        |                                                        |
| LOSING PAIN UNDER SEVEN DAYS.                                            |                                                        | LOSING PAIN UNDER SEVEN DAYS.                                            |                                                        |
| Average duration.                                                        |                                                        | Average duration.                                                        |                                                        |
| Without complications.                                                   | With cardiac complications.                            | Without complications.                                                   | With cardiac complications.                            |
| 34 cases, total duration, 823 days. Average 24 days.                     | 39 cases, total duration, 1225 days. Average 31 days.  | 165 cases, total duration, 4813 days. Average 29 days.                   | 169 cases, total duration, 5675 days. Average 33 days. |
| LOSING PAIN AFTER SIXTH DAY.                                             |                                                        | LOSING PAIN AFTER SIXTH DAY.                                             |                                                        |
| 86 cases, total duration, 3173 days. Average 36 days.                    | 132 cases, total duration, 5577 days. Average 42 days. | 31 cases, total duration, 1351 days. Average 43 days.                    | 38 cases, total duration, 1515 days. Average 39 days.  |
| 167 Patients ill before admission longer than 7 days, less than 28 days. |                                                        | 155 patients ill before admission longer than 7 days, less than 28 days. |                                                        |
| 72 cases, total duration, 2781 days. Average 38 days.                    | 95 cases, total duration, 3845 days. Average 40 days.  | 70 cases, total duration, 2104 days. Average 30 days.                    | 85 cases, total duration, 2941 days. Average 34 days.  |
| 49 Patients ill before admission longer than 28 days.                    |                                                        | 24 Patients ill before admission longer than 28 days.                    |                                                        |
| 23 cases, total duration, 610 days. Average 26 days.                     | 26 cases, total duration, 886 days. Average 34 days.   | 13 cases, total duration, 382 days. Average 29 days.                     | 11 cases, total duration, 433 days. Average 39 days.   |

## TABLE GIVING DETAILS OF ABOVE ANALYSES.

## WITHOUT SALICYLATES.

291 patients ill before admission one week or less. Remained under treatment in days—

## LOSING PAIN UNDER SEVEN DAYS.

*Without complications.*

8, 3, 19, 17, 53, 65, 22, 20, 17, 21,  
15, 16, 27, 23, 14, 47, 29, 28, 9, 9, 28,  
20, 27, 10, 15, 84, 59, 21, 8, 12, 16, 37,  
14, 10.

*Average, 24 days.*

*With complications.*

32, 20, 16, 14, 10, 14, 11, 22, 91, 35,  
9, 74, 29, 17, 11, 21, 28, 26, 47, 31, 47,  
14, 43, 17, 15, 19, 19, 51, 14, 13, 35,  
24, 16, 37, 35, 37, 66, 31, 34.

*Average, 31 days.*

## LOSING PAIN AFTER SIXTH DAY.

42, 31, 23, 22, 37, 38, 16, 38, 19, 17,  
23, 31, 40, 30, 35, 25, 26, 34, 15, 76,  
17, 27, 19, 69, 36, 21, 16, 28, 33, 27,  
21, 34, 35, 31, 79, 42, 36, 28, 28, 33,  
20, 32, 23, 37, 28, 17, 19, 56, 31, 24,  
36, 40, 17, 24, 14, 30, 32, 46, 34, 38,  
39, 28, 33, 55, 33, 21, 36, 24, 54, 37,  
70, 70, 52, 35, 81, 65, 41, 55, 27, 41,  
62, 53, 67, 59, 73, 50.

*Average, 36 days.*

31, 33, 19, 26, 32, 96, 14, 30, 35,  
37, 67, 43, 27, 34, 38, 48, 41, 52, 20,  
42, 22, 52, 38, 55, 64, 29, 31, 37, 21,  
56, 25, 66, 10, 41, 35, 31, 25, 40, 32,  
50, 37, 33, 22, 47, 19, 31, 35, 32, 30,  
42, 30, 39, 45, 34, 46, 65, 43, 48, 27,  
29, 34, 28, 43, 42, 23, 21, 49, 36, 23,  
59, 64, 43, 32, 32, 33, 38, 46, 49, 52,  
51, 43, 55, 80, 64, 32, 32, 36, 52, 57,  
32, 32, 52, 37, 32, 26, 57, 60, 28, 123,  
53, 29, 37, 24, 52, 35, 45, 66, 47, 42,  
36, 32, 62, 75, 48, 72, 46, 50, 45, 65,  
29, 55, 31, 44, 46, 36, 52, 34, 101, 61,  
55, 51, 47.

*Average, 42 days.*

167 patients ill before admission longer than one week, less than five. Remained under treatment—

*Without complications.*

26, 11, 15, 22, 26, 21, 30, 25, 24, 16,  
18, 33, 29, 10, 15, 27, 43, 28, 32, 39,  
28, 52, 27, 20, 25, 14, 27, 26, 43, 28,  
41, 35, 33, 13, 32, 27, 13, 39, 47, 20,  
25, 70, 14, 49, 56, 20, 34, 20, 25, 30,  
34, 61, 41, 62, 58, 35, 55, 49, 49, 56,  
140, 64, 44, 79, 57, 61, 81, 83, 51, 41,  
76, 41.

*Average, 38 days.*

*With cardiac complications.*

29, 18, 25, 12, 65, 35, 14, 34, 87, 41,  
28, 75, 41, 31, 64, 22, 27, 19, 43, 26,  
31, 13, 34, 36, 42, 37, 21, 22, 33, 43,  
37, 31, 30, 79, 82, 46, 26, 22, 49, 56,  
38, 21, 46, 42, 73, 34, 17, 19, 35, 51,  
40, 32, 83, 49, 47, 33, 26, 34, 20, 44,  
30, 34, 33, 32, 27, 26, 69, 17, 27, 54,  
50, 55, 53, 31, 44, 48, 46, 45, 22, 43,  
33, 44, 41, 31, 43, 63, 45, 42, 41, 120,  
43, 36, 72, 42, 65.

*Average, 40 days.*

49 Patients ill before admission one month or more. Remained under treatment—

*Without complications.*

11, 15, 12, 30, 10, 30, 49, 17, 16,  
16, 27, 37, 23, 29, 13, 18, 29, 23, 40,  
34, 40, 49, 38.

*Average, 26 days.*

*With cardiac complications.*

32, 24, 32, 15, 35, 22, 50, 57, 21,  
28, 19, 21, 31, 25, 28, 56, 46, 13, 49,  
27, 46, 23, 62, 45, 54, 45.

*Average, 34 days.*

## WITH SALICYLATES.

403 Patients ill before admission one week or less. Remained under treatment—

## LOSING PAIN UNDER SEVEN DAYS.

*Without complications.*

26, 26, 12, 10, 20, 31, 29, 17, 17, 10,  
12, 49, 12, 44, 21, 42, 20, 45, 29, 44,  
51, 29, 26, 25, 18, 23, 35, 21, 49, 31,  
16, 35, 18, 18, 22, 12, 52, 21, 21, 15,  
44, 14, 31, 36, 29, 34, 22, 7, 29, 11,  
17, 35, 25, 34, 32, 46, 27, 15, 17, 49,  
19, 11, 21, 32, 29, 23, 10, 54, 16, 12,  
13, 23, 44, 25, 5, 52, 39, 21, 51, 23,  
65, 43, 29, 13, 68, 21, 37, 41, 25, 19,  
23, 15, 42, 19, 17, 36, 15, 21, 24, 25,  
59, 34, 8, 15, 35, 41, 40, 21, 37, 82,  
21, 27, 20, 33, 24, 23, 26, 23, 14, 13,  
23, 25, 28, 26, 25, 40, 82, 33, 16, 56,  
47, 32, 46, 44, 23, 35, 26, 23, 17, 15,  
18, 36, 23, 27, 25, 20, 29, 26, 68, 32,  
30, 42, 48, 34, 57, 25, 36, 23, 41, 53,  
19, 21, 57, 17, 18.

*Average, 29 days.*

*With cardiac complications.*

42, 17, 23, 104, 37, 17, 31, 23, 60,  
31, 19, 40, 28, 51, 29, 23, 21, 29, 49,  
25, 53, 30, 19, 12, 53, 42, 22, 43, 48,  
22, 11, 11, 30, 28, 23, 14, 20, 23, 18,  
50, 32, 15, 18, 16, 27, 26, 14, 19, 14,  
47, 23, 29, 26, 20, 44, 28, 25, 50, 36,  
28, 39, 20, 23, 20, 37, 29, 26, 17, 23,  
36, 47, 18, 52, 54, 22, 57, 15, 28, 37,  
45, 24, 57, 21, 48, 34, 17, 52, 41, 28,  
22, 81, 12, 17, 18, 49, 62, 23, 33, 35,  
23, 21, 22, 47, 16, 70, 25, 35, 38, 28,  
27, 23, 34, 33, 39, 22, 28, 76, 65, 34,  
20, 21, 59, 36, 68, 17, 81, 30, 30, 44,  
18, 37, 33, 28, 24, 21, 41, 44, 164, 68,  
25, 34, 39, 36, 26, 57, 87, 40, 52, 26,  
36, 28, 15, 33, 34, 43, 26, 26, 15, 18,  
21, 34, 23, 18, 18, 19, 42, 25, 32, 24.

*Average, 33 days.*

## LOSING PAIN AFTER THE SIXTH DAY.

28, 122, 32, 31, 28, 110, 122, 33,  
30, 41, 28, 32, 18, 29, 15, 30, 37, 46,  
61, 17, 57, 23, 37, 25, 24, 21, 46, 84,  
30, 31, 83.

*Average, 43 days.*

50, 37, 40, 25, 16, 41, 25, 32, 39,  
55, 14, 40, 37, 39, 33, 25, 32, 55, 26,  
57, 30, 14, 27, 26, 45, 35, 43, 26, 53,  
32, 28, 47, 114, 49, 34, 93, 54, 47.

*Average, 39 days.*

155 Patients ill before admission longer than one week, less than five. Remained under treatment in hospital—

*Without complications.*

34, 20, 18, 37, 53, 25, 18, 21, 13,  
21, 9, 13, 15, 18, 52, 38, 27, 31, 32,  
15, 26, 23, 39, 27, 23, 26, 20, 22, 19,  
42, 17, 18, 35, 21, 26, 10, 25, 73, 44,  
24, 10, 27, 20, 46, 56, 23, 24, 31, 21,  
14, 60, 17, 29, 23, 37, 22, 19, 13, 27,  
53, 28, 33, 43, 39, 81, 22, 34, 53, 46,  
83.

*Average, 30 days.*

*With cardiac complications.*

24, 24, 31, 15, 67, 19, 49, 27, 31,  
23, 34, 29, 13, 23, 43, 21, 20, 13, 12,  
43, 47, 29, 42, 70, 9, 14, 36, 37, 50,  
19, 18, 18, 38, 33, 32, 67, 47, 15, 34,  
39, 19, 29, 18, 22, 18, 29, 36, 34, 33,  
43, 62, 20, 38, 16, 46, 14, 33, 26, 26,  
55, 22, 25, 32, 42, 58, 34, 25, 16, 105,  
29, 28, 62, 72, 26, 56, 26, 49, 58, 28,  
39, 32, 26, 32, 57, 91.

*Average, 34 days.*

24 Patients ill before admission longer than 28 days. Remained under treatment—

|                                                        |                                                |
|--------------------------------------------------------|------------------------------------------------|
| <i>Without complications.</i>                          | <i>With cardiac complications.</i>             |
| 38, 20, 21, 23, 17, 79, 28, 13, 27,<br>50, 50, 81, 35. | 44, 49, 47, 36, 22, 26, 19, 31, 62,<br>27, 70. |
| <i>Average, 29 days.</i>                               | <i>Average, 39 days.</i>                       |

This table, dealing with the length of illness before admission, is sub-divided, according as the patient was ill before admission less than seven days, less than twenty-eight, but longer than seven days; and lastly, where the patient was ill before admission longer than twenty-eight days. This table also takes note of the relative frequency of heart disease as affected by periods antecedent to treatment.

A study of these tables shows there is but little difference between the several groups.

---

Coincident with the introduction of salicylates, as a remedy in the treatment of acute rheumatism, were rumours to the effect that, in some cases at least, the action of the drug was followed by toxic symptoms.

These opinions may be said to have crystallised into form, at a meeting of the Clinical Society in 1880. In the May of that year, it will be remembered that Dr. Greenhow read a paper upon the treatment of acute rheumatism by salicylate.

His conclusions were briefly as follows:—The remedy was a powerful anti-pyretic, quickly subduing fever and pain. It had no effect in averting complications; that in some cases there were symptoms of cardiac failure, calling for the withdrawal of the drug, that under its influence relapses were very common, and that the duration of the illness was not diminished, but on the contrary rather increased.

Toxic results frequently followed its use.

Since the date of this paper there have been at different times statements, which would uphold the opinions expressed by Dr. Greenhow. After seven years they again took shape at a meeting of the Clinical Society for the current Session, 1887–1888.

Dr. Broadbent, in his Presidential Address, called attention to the subject in the following words, which I quote from the 'British Medical Journal' of the 5th February, 1887.

Dr. Broadbent, speaking on the action of remedies, is there reported as saying :—"Even with regard to the employment of salicine and the salicylates in acute rheumatism, I think it well to raise a warning note. Properly employed, salicine and salicylates almost rob acute rheumatism of its terrors and dangers, but, given in routine fashion, as we should give an effervescing mixture, they seemed to me capable of doing serious harm; at any rate I have seen deaths in acute rheumatism of a kind quite new and strange to me, after prolonged administration of salicylate of soda every four and six hours."

Coming from such a high authority as Dr. Broadbent, this statement must be accepted as proof that the administration of salicylates is occasionally followed by dangerous symptoms, and if we agree that salicylates cannot be given in all cases of acute rheumatism from fear of such dangerous results, it behoves us carefully to differentiate between the different classes of cases we are called upon to treat, and, as far as lies in our power, to formulate rules for guidance in its use.

With such an object it will be well to examine closely those dangerous symptoms with which the action of the remedy is credited. I have made such an inquiry part of my investigation, and although my tables deal, as I have before stated, primarily with cases treated in hospital, and, indeed, without a single instance to the contrary, all cases tabulated are from that source, I shall in the present instance avail myself of those published cases which bear on the toxic effect of the drug.

Dr. Broadbent, in continuation of his remarks upon the effect of salicylates, speaks of dangerous symptoms occurring while the patient is under the influence of the drug, but where both pain and fever had never yielded, the warning being given by delirium. Personally I have cause to believe that the more dangerous symptoms arise in those cases to which I shall immediately refer, in which the temperature and pain had both subsided, but where the temperature *suddenly* rises, ushering in furious delirium and hyperpyrexia. Such cases, I have reason to believe, occur more frequently in private than in hospital practice, and information on this point would be of value from those members of the profession who have met with such cases in consultation.

*Mortality Table,*

Showing age of patient, date of admission, date of death, total length of illness, and cause of death in 18 cases occurring among 850 patients treated *without* Salicylates; and 26 cases occurring among 1,265 patients treated *with* Salicylates.

## WITHOUT SALICYLATES, 850 CASES.

| Name.    | Age.  | Date of admission. | Day of death.      | Total length of illness. | Cause of death.                      |
|----------|-------|--------------------|--------------------|--------------------------|--------------------------------------|
| M. B. .. | 12 .. | 30, 12, '70 ..     | 23 ..              | 30 ..                    | Pericarditis, endocarditis           |
| N. M. .. | 16 .. | 19, 7, '71 ..      | No further date .. |                          | Endocarditis, pneumonia              |
| A. A. .. | 31 .. | 27, 6, '71 ..      | 4 ..               | 8 ..                     | Hyperpyrexia                         |
| J. R. .. | 32 .. | 18, 12, '72 ..     | 2 ..               | 16 ..                    | Pericarditis                         |
| S. P. .. | 11 .. | 30, 10, '72 ..     | 15 ..              | 22 ..                    | Pleurisy                             |
| G. G. .. | 24 .. | 7, 2, '72 ..       | 76 ..              | ? ..                     | Hyperpyrexia                         |
| A. S. .. | 19 .. | 15, 8, '72 ..      | 8 ..               | 12 ..                    | Pericarditis                         |
| E. R. .. | 4 ..  | 29, 10, '73 ..     | 15 ..              | ? ..                     | Pericarditis, endocarditis, pleurisy |
| E. H. .. | 19 .. | 20, 4, '74 ..      | 5 ..               | 12 ..                    | Hyperpyrexia                         |
| N. T. .. | 25 .. | 16, 11, '74 ..     | 12 ..              | 16 ..                    | Hyperpyrexia                         |
| J. C. .. | 32 .. | 7, 6, '74 ..       | 5 ..               | 10 ..                    | Hyperpyrexia                         |
| S. W. .. | 19 .. | 12, 4, '75 ..      | 6 ..               | 13 ..                    | Pericarditis, pleurisy               |
| A. S. .. | 19 .. | 15, 12, '75 ..     | 5 ..               | 7 ..                     | Hyperpyrexia                         |
| W. F. .. | 17 .. | 21, 12, '75 ..     | 11 ..              | 39 ..                    | Hyperpyrexia                         |
| C. S. .. | 22 .. | 28, 11, '76 ..     | 9 ..               | 16 ..                    | Pericarditis                         |
| F. G. .. | 14 .. | 10, 12, '75 ..     | 30 ..              | ? ..                     | Pericarditis, pleurisy               |
| M. G. .. | 24 .. | 31, 12, '75 ..     | 17 ..              | 45 ..                    | Hyperpyrexia                         |
| A. S. .. | 20 .. | 14, 2, '77 ..      | 10 ..              | ? ..                     | Hyperpyrexia                         |

18 deaths.

## WITH SALICYLATES, 1,265 CASES.

|          |       |                |       |            |                              |
|----------|-------|----------------|-------|------------|------------------------------|
| M. C. .. | 16 .. | 14, 4, '77 ..  | 30 .. | 35 ..      | Pleurisy                     |
| E. W. .. | 25 .. | 26, 9, '77 ..  | 4 ..  | 10 ..      | Hyperpyrexia                 |
| E. H. .. | 15 .. | 13, 12, '77 .. | 12 .. | 28 ..      | Bronchitis and croup         |
| A. T. .. | 17 .. | 9, 6, '79 ..   | 29 .. | 3 1/4 mos. | Pleurisy—cardiac             |
| J. B. .. | 16 .. | 25, 8, '79 ..  | 19 .. | 21 ..      | Pleurisy                     |
| M. F. .. | 16 .. | 4, 1, '79 ..   | 46 .. | 60 ..      | Pleurisy                     |
| A. M. .. | 30 .. | 14, 6, '81 ..  | 2 ..  | 13 ..      | Hyperpyrexia                 |
| C. A. .. | 21 .. | 2, 10, '81 ..  | 3 ..  | 7 ..       | Hyperpyrexia, very delirious |
| E. B. .. | 14 .. | 4, 10, '82 ..  | 5 ..  | 19 ..      | Endocarditis                 |
| A. R. .. | 19 .. | 21, 3, '81 ..  | 30 .. | 36 ..      | Hyperpyrexia                 |
| N. J. .. | 21 .. | 6, 8, '82 ..   | 2 ..  | 9 ..       | Hyperpyrexia                 |
| J. H. .. | 18 .. | 12, 12, '83 .. | 21 .. | 36 ..      | Pericarditis, delirium       |
| C. D. .. | 23 .. | 30, 4, '84 ..  | 13 .. | 21 ..      | Hyperpyrexia                 |
| H. B. .. | 11 .. | 15, 4, '85 ..  | 40 .. | 44 ..      | Pericarditis, syncope        |
| S. D. .. | 18 .. | 15, 10, '85 .. | 7 ..  | 21 ..      | Hyperpyrexia, very delirious |
| B. J. .. | 20 .. | 8, 4, '85 ..   | 12 .. | 19 ..      | Pericarditis, hyperpyrexia   |
| J. B. .. | 21 .. | 23, 9, '84 ..  | 28 .. | 60 ..      | Purpura                      |
| J. M. .. | 13 .. | 31, 10, '84 .. | 7 ..  | 28 ..      | Pleurisy, pericarditis       |
| J. N. .. | 19 .. | 7, 6, '84 ..   | 2 ..  | 9 ..       | Pericarditis, pneumoni       |
| E. E. .. | 6 ..  | 12, 12, '84 .. | 29 .. | 36 ..      | Cardiac bronchitis           |

WITH SALICYLATES, 1,265 CASES—*cont.*

| Name.    | Age.  | Date of admission. | Day of death. | Total length of illness. | Cause of death.         |
|----------|-------|--------------------|---------------|--------------------------|-------------------------|
| A. N. .. | 18 .. | 14, 11, '85 ..     | 40 ..         | 45 ..                    | Cardiac bronchitis      |
| E. K. .. | 17 .. | 27, 11, '84 ..     | 2 ..          | 7 ..                     | Pericarditis, pleurisy  |
| C. C. .. | 10 .. | 2, 11, '84 ..      | 5 ..          | 13 ..                    | Pericarditis, pneumonia |
| G. H. .. | 12 .. | 7, 7, '84 ..       | 3 ..          | 11 ..                    | Pericarditis, pleurisy  |
| J. B. .. | 26 .. | 1, 12, '83 ..      | 7 ..          | 21 ..                    | Pneumonia               |
| A. H. .. | 11 .. | 6, 6, '84 ..       | 2 ..          | 3 ..                     | Pneumonia               |

26 deaths.

The relative mortality in the two groups of cases which I have collected is much the same. The deaths are arranged for comparison. These tables show the age of patient, date of admission, date of death, total length of illness, and the stated cause of death. In 18 cases occurring among 850 patients treated without salicylates, and 26 cases occurring among 1,265 patients treated with salicylates, the proportion thus being much the same. From these cases it appears that organic lesions are more commonly found among patients treated by salicylates, and for this reason I find it difficult to give hyperpyrexia its true value. In many cases, although the cause of death is assigned to an inflammatory lesion, the temperature was sufficiently high to warrant the use of the term hyperpyrexia.

Wishing to obtain further information as to the mortality in acute rheumatism, I have consulted the pages of the 'Lancet' since the year 1864. In find in that Journal during twelve years, 1864-1875, there are 19 fatal cases alluded to. Of these 19 cases death is attributed to hyperpyrexia in 16. These cases all occurred prior to the introduction of salicylates.

In the ten years and six months, 1876-June, 1886, 24 fatal cases are quoted, all occurring among patients taking salicylates, and, as far as I can gather from the reports, the fatal result was attributed to syncope or hyperpyrexia, hyperpyrexia being specially mentioned in 20 cases.

It would not be legitimate to make use of such a comparison as is afforded by the pages of a medical journal as a basis from which to estimate the death-rate in any disease treated by different methods, and I merely refer to the matter with the hope of being able to supplement our knowledge as to the dangerous symptoms noticed during the administration of salicylates, and while considering such dangerous symptoms "hyperpyrexia" will naturally attract our attention.

I make use of the term in those cases where temperature has a marked tendency to range high, namely,  $104^{\circ}$  and upwards. It may be remembered that in the report on hyperpyrexia, framed by the Committee of the Clinical Society, these cases were referred to under three heads.

Class 1, cases of undoubted hyperpyrexia, with an elevation of temperature to  $106^{\circ}$  and above.

Class 2, cases showing a marked tendency to high range of temperature, viz.,  $104^{\circ}$ , continued and persistent.

Class 3, cases with symptoms well marked, characterising usually the hyperpyrexia cases, but without marked excess in temperature.

In speaking of hyperpyrexia the cases alluded to by me will include only those mentioned under the first two heads.

In hyperpyrexia we have a symptom, the gravity of which can hardly be overstated. It is a symptom of immediate consequence, and may at any moment call forth all our resources.

The effect of any remedy vaunted as a specific in acute rheumatism must be very closely scrutinised with regard to its influence upon this formidable complication.

There cannot be any doubt but that patients, while fully under the influence of salicylate, may become hyperpyrexia. Upon this point the teaching of Fagge is misleading, and should be corrected in any subsequent edition of his valuable work. He writes: "As yet I know no instance in which the temperature had been falling in the usual manner under salicylate, and has then suddenly swept upwards beyond all ordinary limits."

This statement cannot, I am sorry to say, be supported, now that our knowledge as to the influence of the drug is better known. There is, indeed, abundant evidence that patients fully under the influence of salicylates rapidly becomes hyperpyrexia, though all pain may have gone and the temperature have fallen to the normal.

Within the limits of the present paper it would not be possible to give more than an outline of those cases which bear upon this most important inquiry. All the cases I shall quote are fully published, and can be referred to by those wishing for greater detail than can be given here.

In the 'Lancet' for July, 1876, a fatal case is reported. A man, aged 27, given salicylate of soda in 15 grain doses every three hours speedily lost pain, temperature remained high, salicylate

being increased to 25 grains every three hours, the patient became hyperpyrexia and died. In December, 1876, another case is reported, the patient being a man aged 27, salicine being here given in 20 grain doses every two hours, with much relief of pain. Subsequently to the temperature having fallen, the patient became furiously delirious, and died hyperpyrexia.

In the first volume of 'Lancet,' 1877, the following case is referred to. A man, aged 31, suffering from an attack of ordinary intensity, at first treated on general principles, the pain left. Temperature, however, rising, salicylic acid was given in 15 grain doses every hour. Temperature fell, but the patient became violently delirious, requiring several men to hold him in bed, died hyperpyrexia.

In the same volume are two more fatal cases, in one, salicylate being given in 15 grain doses every hour. While taking the remedy the temperature rose from  $101^{\circ}$  to  $109^{\circ}$ , death occurring on the third day. In the second case, the same dose, 15 grains, was given every two hours, the remedy having no effect upon the rising temperature.

In November of the same year is another fatal case. A woman, aged 19, with temperature of  $105^{\circ}$ , 20 grains of salicylate of soda given every three hours speedily reduced the temperature and pulse. The use of the drug was attended with much delirium, and cardiac depression, temperature again rose and death ensued.

In the same year I note another case in which rapid rise of temperature and delirium came on while patient was taking salicylate in 20 grain doses, death taking place on the third day.

In February, 1880, is a fatal case, a man, aged 26, salicylate being given every three hours, in 20 grain doses. Pain quickly subsided and temperature fell, the patient became delirious, salicylate being then left off. The drug was resumed the following day, furious delirium ensued, requiring two or three men to hold the patient in bed.

Again, in 1881, is a fatal case. A woman, aged 19, under salicylate, pain left and temperature fell, subsequently rising to above  $105^{\circ}$ .

It has been suggested that in at least some of such cases, the dose, or frequency of dose, has been insufficient to produce the requisite effect of the drug. In other words, that faulty results are attri-

butable to faulty administration rather than to want of power on the part of the remedy.

I am able to produce evidence that even when the drug has been used most heroically there has not followed the desired effect.

Take, for instance, a case fully quoted in 'Lancet' for 1883. The patient, being a woman aged 22. On May 11th treatment was commenced, 50 grains of salicin being given every hour. After six doses temperature had fallen and pain was less, salicin being now given in the same dose, but every second hour. The following day the pains had quite gone, but apparently the temperature not having fallen to normal, the dose of salicin was increased to 60 grains every second hour. Violent delirium supervened and the patient died.

In 'Lancet' for 1884, I find another case reported, in which death ensued on the second day. The administration of the remedy was rapidly followed by loss of pain, but the temperature remained at 102°. It rapidly rose, and the patient died in violent delirium.

In the 'Lancet' for 1886, are two cases bearing on the point under consideration: one, the case of a lady, who evidently was suffering from an attack of gouty rheumatic nature. She had been treated by simple ordinary methods for three weeks, and was stated to be slowly getting better. At this time, with the view of more directly treating the rheumatic symptoms, the patient was placed on salicylate. At this time it is particularly stated by the medical attendant, that there was no symptom indicating alarm. The condition of the patient being natural, after three doses of salicylate, symptoms of asthenia came on and the patient died.

The second case is reported in the fullest detail: I mention only the leading points. The patient, a man, was seized, as stated, with rheumatism of ordinary intensity. He was placed on salicylate of soda, 20 grains being given as a dose, every hour. Within two days the pain had gone, and the temperature was noted as normal. The day following, the temperature, however, began to rise, the patient expressed himself as free from pain. He was still taking salicylate of soda every hour. The temperature rising, antipyrin was given in addition to the salicylates. The temperature still rising, antipyrin was again repeated. The patient was now violently delirious, indeed so delirious that he was placed in a

strait-waistcoat. A state of coma supervened, the temperature being  $108.8^{\circ}$ . At this period a cold bath was given, and under its use the temperature fell to  $101^{\circ}$ . The temperature at this juncture fluctuated a good deal, and another bath was given, but it failed to save the patient.

In this case I do not think there can be any doubt but that the patient was sufficiently under the influence of the drug, and that while under the influence temperature fell, and that still under the influence—for the remedy was still being used in doses of 20 grains every hour—the temperature again rose to hyperpyrexia height.

With regard to the first of these cases, it might with reason be urged, that the dose, or rather the actual amount of the drug used—three doses, 15 grains in each—was insufficient to cause that disastrous effect, which, rightly or wrongly, was ascribed to the action of the remedy.

This point, it may be remembered, was discussed at a meeting of the Clinical Society, in connection with a case of Dr. Goodhart's, in which he suggested a fatal issue to the use of salicylate in small quantity. This same case is again referred to by Dr. Fagge, in his work on Medicine, and he there follows the suggestion offered by Dr. Bristow at the time when the discussion took place, that in some instances the *materies morbi* of acute rheumatism are of such intensity as to cause death *per se*.

Such an explanation cannot account for the case which I have quoted, as it is distinctly stated that the attack was of very ordinary intensity. Some patients are, doubtless, peculiarly susceptible to the toxic effects of salicylate.

A case supporting this view occurred to me in my own practice but a few months past. A lady came under my care suffering from a well-marked regular attack of acute rheumatism of moderate intensity. There was no complication and no symptom of grave nature. On the third day of the attack, salicylate of soda was prescribed, 15 grains being given as a dose. The first dose was taken between 8 and 9 A.M., and a second about 12.

The remedy acted with charm-like rapidity, and the patient spoke warmly of the good the remedy had done. About two hours after the second dose, the nurse became alarmed at the state of the patient. I saw her within a few minutes, and found the most serious condition of collapse. The temperature had fallen to sub-normal, having been  $101^{\circ}$  when the remedy was com-

menced. I could barely feel the pulse at wrist, and the heart sounds were almost inaudible. The skin was bathed in perspiration. There was absolute freedom from pain, the only complaint made by the patient being that she could not see or hear well, and that she felt as if falling through the bed.

Under ordinary treatment cardiac power returned, and a good but slow recovery was made.

I have no doubt but that the symptoms here, clearly marking cardiac failure, were directly to be attributed to the drug, although given in such a small amount as represented by 30 grains; and I cannot but feel that if the remedy had been persevered in, a fatal issue would have followed its use.

We shall probably find, as I have before observed, that the majority of fatal cases occur in private practice, from the fact that dangerous symptoms come on with great rapidity, and that an interval of some hours without being seen by the medical attendant may prove an important factor contributing to the fatal issue.

The patient in hospital is constantly under the observation of skilled, highly-trained nurses, and any untoward symptom is at once recognised, and advice is obtained within a few minutes.

It may be urged that fatal results check the path of acute rheumatism, treated by all known methods, and that the cases which I have used to support my argument, that serious and dangerous symptoms are especially found with patients treated by salicylate, cannot be supported on the ground that the cases referred to are of exceptional severity, and would probably have been fatal if treated otherwise. As opposed to this view there are a few cases published, in which the alarming symptoms referred to having taken place while the patient was under the influence of salicylates immediately left on the drug being discontinued.

In 'Lancet,' for May, 1881, I find the following case fully reported. A woman, aged 33, suffering from an attack of rheumatism of ordinary intensity, and presenting no unusual points, was placed on salicylate of soda, 20 grains being given every hour. After six doses temperature reduced from  $101.8^{\circ}$  to  $99^{\circ}$ , pain all but gone, the pulse kept up for a day or two, the temperature keeping down. On the third day, still taking salicylate, the patient was quite free from pain, but on the same evening delirium supervened, temperature sweeping up to  $105^{\circ}$ , the salicy-

late was here discontinued, brandy was given, and cold applied, and the patient recovered.

In the July number of the same year is another case, of a woman, aged 21, under salicylate, pain and temperature were normal on the second day after admission. On the third day, however, the temperature rapidly rose, reaching  $105^{\circ}$ , when the remedy was left off, and cold applied, the patient recovering.

In October, 1883, is a case in which it is stated the temperature continued to rise under the influence of salicylate, the drug was being given in 20 grain doses, administered every two hours. The remedy being left off, the temperature subsided, and the patient recovered.

In 1881 I published in the 'Lancet' a case which bears on this point. While seeing some out-patients at the West London Hospital I was asked by the Resident Medical Officer to see a patient in one of the wards, who had become violently delirious.

The patient was a young girl, suffering from acute rheumatism. Under salicylate, the temperature had fallen to normal, and the pain had completely left by the evening of the second day after admission. On the third day there was slight return of pain, and temperature began to creep up. I saw the patient on the afternoon of the fifth day: she was being held in bed by the nurses. Her temperature being  $106^{\circ}$ .

The salicylates were ordered to be left off, and we applied cold in the form of ice, in fact, packed the patient in ice, and gave brandy to support the nerve power. The delirium was speedily subdued, and the patient sank into a quiet sleep and made a perfect recovery.

These cases certainly appear to support an impression which I hold strongly, that in the event of rising temperature occurring, while the patient is taking salicylates, the remedy should be discontinued. We have remedies far more potent, as agents for counteracting pyrexia, than salicylates.

From the data before me, to the best of my ability, I have endeavoured to estimate the comparative temperatures in patients treated before the salicylate period, and subsequently to its general use.

From a careful examination of the cases, there can be no doubt but that a high temperature is not incompatible with the administration of salicylates. In fact, I gather from my notes, it is no

infrequent complication of some period of the attack, the temperature of a relapse being frequently higher than that of the initial outbreak. This is not so generally the case with patients relapsing under the older methods of treatment. From the records of 850 patients treated prior to the introduction of salicylate, I find that I have noted temperature at some period or other of the attack, mounting to  $103^{\circ}$  and upwards in seventy cases. Delirium among these cases is but very seldom alluded to, furious delirium, *never*.

From the records of St. Bartholomew's I find that in the case of 505 patients treated by salicylate, 146 are mentioned as having a temperature of  $103^{\circ}$  and upwards. Delirium is noted as complicating 20 of these cases. My notes do not enable me to give the temperature of these cases on admission, but it may be taken as a general rule that the high temperature occurred subsequently to the treatment, and, as I have before remarked, especially during the relapse with which the rapid defervescence under salicylates is so frequently followed.

Again, in the case of 386 patients treated at Guy's by salicylates, I find 66 credited with temperature above  $103^{\circ}$ , 57 are mentioned as having delirium, and in many instances the delirium is especially noted as being of a furious character.

Since these remarks were written, an article has appeared in the current number of the Guy's Reports, by Dr. Shaw.

He compares the toxic effects of salicylate as observed in the years 1881-1886. In 1881, 102 cases of acute rheumatism were under treatment, 62 suffered from toxic effect, 21 being delirious. In 1886, 72 cases were under treatment, 49 suffered toxic effect, 12 having delirium.

As I have before remarked the natural history of acute rheumatism is as well known as any disease we are called upon to treat.

Delirium during the attack is *not* an ordinary symptom. I say, without hesitation, that excepting cases of hyperpyrexia, and in the majority of these cases the delirium is of an entirely different character, and those where the patient is addicted to alcoholic excess, it is very rare complication. Therefore, when we find it so constantly referred to as complicating the course of acute rheumatism treated by salicylates, there can be no reasonable doubt but that the drug is answerable. Hyperpyrexia is perhaps the most formidable complication met with in acute rheumatism.

Among the general conclusions arrived at by the Committee appointed by the Clinical Society to investigate this serious state, will be found the following conclusions :—(6.) “That the mortality of these cases—hyperpyrexia—is very considerable, hyperpyrexia being one of the chief causes of death in acute rheumatism.” (8.) “That the supervention of *delirium* or other symptoms of nervous disturbance is very frequently either antecedent to, or simultaneous with, the hyperpyrexia.”

A drug which can produce that symptom which hitherto has been looked upon as the first danger signal of the most dreaded and fatal complication of acute rheumatism, demands more than ordinary care in its administration.

In a paper which I had the honour to read before the Medical Society of London, in December, 1881, in which I compared the treatment of acute rheumatism with, and without, salicylates, I expressed an opinion which was fully endorsed by the discussion which followed, that patients taking salicylates, though quickly losing their pain, were often left enfeebled, and remained in hospital longer than those patients who did not have the remedy.

The examination of a far larger number of cases still supports that view, though, perhaps, not so decidedly, as I find the cases from Bartholomew's are discharged as a whole more speedily than those from Guy's. If Guy's alone were to be taken, the average duration of illness in patients taking salicylate would be longer. I have chosen to mass the two sets of cases together, and a summary is tabulated (p. 32), giving the actual duration of illness as measured by discharge from hospital in 2,014 cases. This table gives a fair estimate of the comparative length of illness.

In estimating the value of treatment with regard to the specific influence of any drug, it is of the utmost importance to ascertain as carefully as possible the length of time the illness had lasted anterior to the patient's admission into hospital.

If a remedy be specific, the earlier in the course of a disease that a patient is placed under its influence the more marked should be the good resulting from its use.

Information on this head is afforded by tables previously referred to. It does not appear that patients treated specifically at the very commencement of the attack are cured more rapidly than those in whom the remedy has been made use of at a much later period of the illness.

TABLE COMPARING THE TREATMENT OF 822 CASES TREATED WITHOUT SALICYLATES, AND 1192 CASES TREATED FROM COMMENCEMENT OF ATTACK WITH SALICYLATES.

| Duration of Illness.                                   | Patients treated without Salicylates (Guy's). | Patients treated with Salicylates (Guy's, 1st series). | Patients treated with Salicylates (Guy's, 2nd series). | Patients treated with Salicylates (St. Bartholomew's). |
|--------------------------------------------------------|-----------------------------------------------|--------------------------------------------------------|--------------------------------------------------------|--------------------------------------------------------|
| Patients discharged from hospital on 10th day or under | 12                                            | 2                                                      | 3                                                      | 14                                                     |
| Patients discharged between 10th and 20th day .. ..    | 105                                           | 40                                                     | 31                                                     | 116                                                    |
| Patients discharged between 20th and 30th day .. ..    | 175                                           | 108                                                    | 76                                                     | 153                                                    |
| Patients discharged between 30th and 40th day .. ..    | 182                                           | 64                                                     | 84                                                     | 97                                                     |
| Patients ill longer than forty days ..                 | 331                                           | 104                                                    | 160                                                    | 114                                                    |
| Total, including deaths .. ..                          | 822                                           | 328                                                    | 360                                                    | 504                                                    |
| Patients suffering from cardiac complications .. ..    | 500                                           | 190                                                    | 241                                                    | 316                                                    |
| Deaths .. ..                                           | 17                                            | 10                                                     | 6                                                      | 10                                                     |

A study of a large number of cases treated by salicylate does not, I am sorry to say, tend to support the view that in the remedy we have a specific against acute rheumatism.

If in truth a specific, the drug should show an overwhelming antagonistic influence, not only to the pain accompanying acute rheumatism, but also to the complication with which its path is beset. These complications, by reason of their frequency, have come to be looked upon almost as factors in the disease. Factors they are not. Any cardiac, any pulmonary, and I would go still further and say any disturbance of the nervous system which complicates the initial attack of acute rheumatism, is due directly to the *materies morbi* of the disease. Any remedy which is, therefore, specific against the *materies morbi* must also be specific against the effects of such poison, that is, if the remedy be given in time and in sufficient quantity.

The endocarditis, the pericarditis, the pleurisy is as much the

result of the disease as the swollen, painful joint, and as such the endocarditis, the pericarditis, the pleurisy should be as directly influenced by the drug as are without doubt the sufferings of the patient.

That endocarditis, pericarditis, pleurisy, and hyperpyrexia may come on while the patient is fully under large and oft-repeated doses of salicine, salicylate of soda, and salicylic acid cannot be disputed. With regard to endocarditis the point is difficult to substantiate, from the fact that in such a large majority of cases the cardiac trouble appears simultaneously or within a few hours of the initial attack.

A brief summary of the principal conclusions to be derived from a study of the data which I have collected may be formulated as follows:—

That treated on general principles, an average of 23 per cent. of patients lose their pains within seven days; of this number about four per cent. are liable to relapses.

Treated by salicylates, an average of 80 per cent. of patients lose their pain within a similar period of time. Of this number about 25 per cent., or a fourth, may be expected to relapse.

With regard to the liability to cardiac disease, there is no ground for the assumption that patients, even when treated *ab initio* with salicylates, are in any degree less predisposed to cardiac mischief than those treated on general principles. Patients treated with salicylates remain in hospital as long, in many cases longer, than those treated by other methods.

Of patients discharged from hospital at an early date, and therefore presumably free from fever and pain, 60 per cent. of those treated on general principles were found to be totally free from cardiac complication as compared with 53 per cent. of patients discharged within a similar period of time and treated with salicylates. Of patients remaining in hospital longer than forty days, 30 per cent. were credited with cardiac mischief as compared with 40 per cent. of patients treated by salicylates.

Estimating the comparative time spent in hospital without reference to complications of any sort or kind, we find that of patients treated on general principles, and discharged from hospital within ten days of admission,  $1\frac{1}{2}$  per cent. have to be contrasted with  $\frac{1}{2}$  per cent.,  $\frac{3}{4}$  per cent., and 2 per cent. of patients treated

with salicylates, and arranged in series as collected by me at different times. (See table, page 32.)

Of patients discharged between ten and twenty days, 12 per cent. have to be contrasted with 13, 9, and 23 per cent.

Of patients discharged between twenty and thirty days, 21 per cent. have to be contrasted with 30, 23, and 30 per cent.

Of patients discharged between thirty and forty days, 22 per cent. have to be contrasted with 20, 23, and 19 per cent.

Of patients discharged after forty days, 40 per cent. to be contrasted with 32, 47, and 23 per cent. I should add that the fourth series here alluded to refers entirely to patients treated at St. Bartholomew's Hospital; it appears that the patients from this hospital are discharged at an earlier date than they are from Guy's. The mortality between the two sets of cases, that is, between patients treated with salicylates and those who are not, is much the same, but there is one important point upon which it would be desirable to ascertain further information. Are patients who may be the subject of severe complications more likely to succumb to the disease when treated by salicylates than those in whom the remedy has not been made use of? Apparently from an examination of the cases which I have collected, patients suffering from complications, either pulmonary or cardiac, do more readily suffer. My own private experience would largely confirm that opinion. I have certainly seen patients die from acute rheumatism when treated with salicylates, when under the older methods of treatment I should not have anticipated a fatal result.

From the cases collected, and from further investigations and a comparative study of those cases reported in the three principal medical journals, it would appear as if hyperpyrexia was as commonly met with among patients treated with salicylates as among patients treated on general principles.

Without question, the well-recognised premonitory symptoms, under which I include restlessness, the various degrees of delirium, and other disturbances of the nervous system, and a tendency for the temperature to range high, are far more commonly met with among patients treated with salicylates than with those in whom the remedy was not used.

It does not appear that those patients treated *ab initio* within a few days or hours of the commencement of their illness with free and full doses of salicylates, have any decided lessened liability

to cardiac mischief, or to any decided diminution of length of illness, than those treated within the same period of time on general principles.

I do not think there can be a doubt but that in at least a certain proportion of cases of acute rheumatism treated with salicylates, the use of the remedy is attended with dangerous symptoms due to the drug itself. If we cannot look upon the remedy as specific, and if we find its use contra-indicated in certain cases, it of necessity behoves us to carefully differentiate, if possible, between those cases in which it is desirable to use the drug, and those in which its use is contra-indicated. Also, I would urge the importance of recognising the class of case in which the remedy can be pushed, and, on the other hand, those cases in which it should be used with caution, possibly as an anodyne only.

Much assistance in such an inquiry will be gained by glancing for a moment at the various types under which acute rheumatism is met with in practice.

It is no artificial division which groups acute rheumatism into three large classes—classes which are defined more by the age of the patient than by any peculiarity or quality of the *materies morbi* of the disease.

Clinically we meet with acute rheumatism in child life, in adult life, and in middle or advanced life. At each of those various periods of life the attack is more or less modified, often, as we all well know, it is profoundly so.

Such a classification does not admit of any sharp line of demarcation between the several groups. A typical case of each may admit of no ambiguity, but as the groups merge the one into the other so they lose their distinctive characteristics. Gauging case by case we shall find no difficulty in proving that one unites with another, link by link, in forming a chain which brings the one extreme of acute rheumatism into touch with the other.

Clinical medicine firmly establishes the fact that acute rheumatism affects patients very differently at different periods of life, and although it is far from my intention to enter upon any exhaustive description of the various forms of rheumatism, I would ask your attention for a short time to consider the salient points of the three great groups I have alluded to. A careful examination will contribute help in estimating the value of treatment, specific or other.

The one great clinical feature which sharply separates rheumatism of child life from that seen in later years, is the liability—a liability much under-estimated—to cardiac inflammatory mischief, without concomitant joint pain. There are other minor differences, such as a less profuse perspiration, but the frequency of cardiac inflammation in one form or other without joint pain is sufficiently marked to separate the rheumatic attacks of childhood from the group distinguished by all the well-known symptoms common to acute rheumatism of early adult life.

Here we meet the disease as seen with its acute suffering with its pyrexia, its severe constitutional disturbance, with its extreme liability to complications affecting both pulmonary and cardiac areas, and with its drenching, sour-smelling sweats.

For purposes of treatment I would further sub-divide this great group. Thus we meet with the typical attack of sthenic character. We meet with attacks of less intensity, the so-called sub-acute variety, and these cases will often be found to differ from the last, not only in intensity but also in method of invasion, the one so frequently striking the patient down with sudden severity, the other often found to have an invasion period marked by indefinite ill-health, extending weeks may be, before the initial acute seizure establishes the nature of the attack.

Again, I would place by themselves patients who are the subjects of unstable nerve-power. They are prone to delirium, and have a very mobile range of temperature. They are restless, easily disturbed and excited, sleep badly. Among them we find patients addicted to alcoholic excess. The treatment of these cases is always fraught with anxiety.

It will be found more difficult to accurately define the third group, that which comprehends the acute attacks of later life.

In the tables constructed by me I have artificially fixed thirty-five years of age as the point from which to date anomalous conditions, as it is after that period of life we find acute rheumatic seizure presenting anomalous characters. Here we do not meet with acute rheumatism in its purer form; the tendency to cardiac complication grows less as age progresses. It is difficult in many cases to strictly eliminate the gouty state. There is a tendency for the smaller joints to become affected; they remain swollen for long after the acute attack has passed off, and leave a condition which closely simulates that seen in atonic gout.

Under this group I would include cases such as the following:—

CASE 1.—In November, 1885, I was consulted by a lady, aged 42. She had but shortly returned from Scotland, where she had been spending the autumn. She complained of rheumatic pains in the smaller joints. The fingers were principally affected, and they were swollen and painful. There were also dyspeptic symptoms, dislike of food, perspiration at night, but no rise of temperature. These indefinite symptoms lasted about ten days, when both knees became suddenly affected. Temperature rose, and an ordinary well-marked attack of rheumatic fever commenced. The severe acute symptoms lasting about three days. Salicylate was given, but the drug was left off in consequence of the intense cardiac depression caused by its use. Fifteen days later, all pain having gone, and temperature having been normal for some days, a relapse ensued. The pain during the relapse was not so acute as at the initial stage, the hands and wrists being principally affected. During this attack the patient was seized with pleurisy, and the attack lasted seven days. Eight days later there was another relapse, with still lower temperature, the pain localised to the left wrist and fore-finger. The patient was seen at this time by Sir William Gull, who looked upon the case as one of atonic gout. As soon as convalescence was established the patient was sent to Bath, and placed under the care of Dr. Coates. Subsequently on her return from Bath, she was seen by Dr. Hermann Weber, who recommended a course at Homburg, which was followed with great benefit.

Here the patient came from a thoroughly gouty stock: she never had had acute rheumatism or acute gout. Her initial acute seizure presented all the characters of ordinary acute rheumatism. Each relapse appeared more and more to be of the nature of gout, and the treatment which proved successful, namely, saline aperients with colchicum and iodide of potash, followed by the ordinary Homburg course, tends to support the view that in her case, at least, an acute rheumatic attack was followed by a state bordering very closely upon gout.

CASE 2.—A lady, aged 67, consulted me, in April, 1887. She had come to town for change of air and scene. She had not been feeling well for some weeks. She complained of being easily tired, very drowsy, and having complete loss of appetite. Her pulse was 80°. There was no rise of temperature. She had always been considered very gouty, and had had several more or less acute attacks of what her doctor had called gout. The night after seeing me she was very restless, and when I saw her in the morning I found the temperature had risen to 100°, and from this time she passed through an acute attack which might be described as acute rheumatism without joint disturbance, for with exception of the knees which were complained of as being stiff and painful, though without swelling, there was absolutely no joint trouble. The temperature had a tendency to range rather high, and on one evening ran up to above 104°. There were soaking sour sweats, a coated tongue, and pulse ranging about 100°. There was no implication of either heart or lung. The urine was clear and contained no albumen or sugar. The specific gravity 1025, and I found a few hours after adding strong nitric acid that the test-tube was full of crystals of nitrate of urea. The quantity of urine passed appeared normal, the diet being milk alone. The attack passed slowly away, and the patient was able to leave town within eight weeks of the primary outbreak, and has since continued in fair health.

CASE 3.—A lady, aged 66, seen first by me on the 6th of June, 1887.

Had been out of health for some time, and for the past ten days or more has been suffering from painful swelled hands, the finger-joints being much enlarged, reddened, and tender to the touch. For the past week she had been taking 15 grains of salicylate of soda every four hours without the slightest advantage, the pain and stiffness rather increasing than otherwise. There was no rise of temperature, and but little acceleration of pulse, but she complained of having had feverish nights, with much perspiration. Placed on bicarbonate of potash effervescing with lemon-juice, and her diet restricted almost entirely to milk, improvement was noted within a few days, and on June the 20th she expressed herself as feeling quite well. The swelling of the joints had completely subsided. The urine in this case was without albumen or sugar, but nitric acid added to the unconcentrated specimen caused a precipitate of nitrate of urea. The patient had been subject to so-called rheumatic attacks, but had never experienced an acute seizure of either gout or rheumatism, and had never, previous to this illness, had any of the joints swollen. A complete course at Homburg was followed with much improvement.

CASE 4.—A patient was admitted into the West London Hospital under my care, in July, 1887, as a case of acute rheumatism. Complaint being made of pain in the right ankle, in knees, and at the back of the neck. The temperature did not rise above 100°. There was much perspiration. On making careful examination of this case it was apparent that the attack was much more of the nature of sub-acute gout. The pain was principally in the ankle, but it had commenced suddenly one night in the great toe. The patient led an inactive life and was accustomed to drink freely of beer: the attack quickly passed off under the treatment of salines and colchicum. I should add that in this case we failed to find uric acid in blood serum, and the attack generally presented all the appearance of acute rheumatism as opposed to gout.

CASE 5.—A gentleman, aged 45, consulted me for rheumatism. He had been known to me for some years, and I knew him to come of a very gouty stock, and to have had several attacks of a gouty nature. Away from town he had been seized with pain and swelling of feet and ankles, and had been placed on an anti-rheumatic treatment in which salicylate of soda took a large share—he was taking salicylate at the time of seeing me. Feeling debilitated, and the pains becoming worse rather than better, he came to town and placed himself under my care. The condition was now that of atonic gout, but there was so much general depression and want of power in the circulation that the treatment adopted was more general than special.

CASE 6.—The patient was a woman, aged 42; she applied at the North-West London Hospital on account of a swollen painful foot which had troubled her for some days. She was a cook, and there was but little doubt a free beer drinker. The trouble was local, and there was no rise of temperature, and but little constitutional disturbance. The joint trouble appeared to be localised round the great toe, and the parts were puffed and appeared to be gouty in character. The patient was not admitted into the hospital, but in a few days she applied again, and it was found that now there was much constitutional disturbance, with rise of temperature. Other joints were now affected. She was admitted as an in-patient and passed through a typical ordinary course of rheumatic fever, with a tendency for the temperature to range high. Indeed on one evening I was sent for to see her in connection with a rather rapid rise of temperature which threatened hyperpyrexia. There was absolutely

nothing in the acute attack which would have suggested gout, but the initial seizure, on the other hand, was strongly suggestive of that disease. The treatment was effervescent salines, to which was added salicine, and it was while taking salicine that the rise in temperature occurred. The salicine being then at once discontinued, and quinine with rather free doses of brandy substituted in its place, in conjunction with cold sponging, speedily brought down the temperature, and it gave us no further trouble, the patient making a good recovery.

Can it be denied that in each of the three groups into which I have divided cases of acute rheumatism, as clinically met with, the *materies morbi* is the same? With regard to the first and second groups, that is, between the rheumatism of child life and adult life, there can be no doubt that the rheumatic poison is the same. With regard to the third, the anomalous group, opinions will differ; some cases are clearly of rheumatic nature while others border closely on gout.

If it be granted that acute rheumatism is presented before us in the various forms or types which I have indicated, and if further it be acknowledged that the *materies morbi* is the same, though the symptoms of the attack may be modified by different varying conditions of the patient, the important question at once arises, Are these several conditions of acute rheumatism to be treated from the same standpoint? If we had found in the salicylates, or indeed in any other remedy, a specific antagonistic effect to the poison of acute rheumatism, the answer would be an easy one, and no other course would be open to us but to treat all cases of acute rheumatic nature, and indeed sub-acute cases as well, from the same vantage ground. So far every specific method of treating rheumatic fever has failed, and a careful enquiry into the use of the salicylates will show conclusively that we have not as yet found a specific remedy against the *materies morbi* of the rheumatic state. Each class or kind of case demands a treatment based upon the individual characteristics or symptoms of the attack. Those cases to be benefited by a salicylate treatment should be capable of demonstration, and *vice versâ* we should be able, from a clinical experience, to eliminate those cases in which the remedy is contra-indicated.

Having, then, glanced at the various forms of acute rheumatism, let us briefly consider the behaviour of such different forms of rheumatism, when treated with salicylates. First, with regard to the rheumatism of early life. Inasmuch as the special peculiarity

of this form of rheumatism is the liability to serious cardiac mischief without concomitant joint pain, and in many cases certainly without severe pyrexia, there can be but little ground for using a remedy which has been conclusively shown to have no influence whatever in warding off the cardiac lesion. Moreover, from the severe type of cardiac lesion so frequently met with in early life, it would seem to be a remedy strongly contra-indicated at this period of life. It is a remedy which has no restraining power in its effect upon the cardiac focal inflammation, but yet undoubtedly in many instances its use is followed by symptoms of cardiac depression. It is a weakened depressed heart which would readily give way, in other words, undergo dilatation, and it is the dilated heart which is most to be feared.

My own experience would thoroughly endorse the opinion of one of our latest writers on the diseases of children: Dr. Angel Money, in speaking of the treatment of acute rheumatism in early life, states that in his opinion salicylate is not of much use if we except those cases in which there is pain and joint effusion. My own experience would lead me to think that the cases calling for salicylate are entirely exceptional, the pain and restlessness being preferably treated by opium.

But lately the opportunity occurred to me of being able to contrast the treatment of two cases almost identical as far as the initial seizure, the one child being placed on a completely anti-rheumatic course, the other treated on more general principles.

The first case, a little boy, aged seven, was seen by me on the 11th of October, 1886, the previous day the child had been considered perfectly well; he had driven out in an open carriage and had been exposed to a very bitter wind. Nothing in particular was noted in the child's condition that evening. The night, however, was disturbed and sleepless, the child being feverish and complaining of thirst, and pain in the throat. When seen by me the attack was of but twelve hours' duration. There was no discoverable lesion, the principal symptoms being a hot dry skin, a quick pulse, and temperature of  $102^{\circ}$ . Nothing could be found in the fauces to account for the pain referred to the throat, it was evidently due to the muscular attachments of the part. The following day there was an increase in the severity of the constitutional symptoms, but still no discoverable lesion. On the evening of the same day a soft systolic murmur could be detected at the

apex, and within a few hours the bruit had increased in intensity. At a consultation held at this time it was decided to adopt a specific anti-rheumatic treatment, alkalies combined with salicylate of soda being freely given.

At the time these remedies were ordered the following note of the condition of the patient was made: "Child very restless, complaining much of pain over the larynx, skin hot and dry, pulse 130, temperature 104°, urine loaded with lithates. Four hours later there was but little change, the temperature had fallen two degrees, but the pulse rate was quicker. The following morning the condition of the patient had not improved, the treatment had been carefully followed throughout the night, which had been restless and passed without any sleep. The child looked prostrate and cachetic. Respirations 66, pulse irregular and difficult to count, temperature 102°. The urine no longer acid and loaded with lithates was now alkaline. Much nausea was complained of, and the child had been sick several times, the vomit being alkaline.

At a consultation held at this time it was considered expedient, considering the powerful anti-rheumatic result which followed the use of the remedies, to persevere with their use. During the following hours there was a further loss of strength. The distribution of body heat was now noted as being irregular, by the thermometer placed in the axilla registered 103°, an exposed hand and other uncovered portions of the body felt cold to the touch.

The irritability of the stomach was great, and the vomit was found to be invariably alkaline. The general condition of the little patient was now most grave. The anti-rheumatic treatment consisting of salicylate of soda combined with alkalies had been given full trial. The physiological effect being marked, but with this marked physiological result, there was no corresponding amelioration in the state of the patient who was rapidly losing strength.

At this juncture Sir William Gull met me in consultation, and we agreed to omit the specific treatment, and replace it by remedies calculated rather to preserve the strength than to have any direct anti-rheumatic effect. With this view alcohol with opium was ordered. Eight hours after this change of treatment—a change most radical—there was a slight improvement: the restlessness was not so great; the distribution of heat was more regular; respirations from 40 to 50. Nausea was still complained of, and any sudden movement induced retching. Some light simple

nourishment had been retained. The following morning improvement was again noted. There had been some quiet sleep, the temperature was 102°, and the pulse of fair volume 120. There had been a little sickness, the vomit being acid. The urine was also acid.

I need not dwell longer on the history of this case. I have mentioned but its leading points, and it will suffice to say that the child recovered after a long tedious illness, recovered, I say, but with a heart permanently damaged both with regard to valve and cavity. I cannot but think that if in this case a directly anti-rheumatic treatment had been persevered with, a fatal issue would have followed.

Within a few days of the time at which this little patient first came under my observation, a child, nine years of age, was admitted into the North-West London Hospital, under my care.

The history, as taken from the child's mother, was as follows:—Three days before applying at the hospital she thought the child must have taken cold. He was feverish and restless at night, and complained of pain over the throat and some stiffness in the legs. On having the child stripped and placed in bed, but little joint trouble could be detected: both knees and ankles could be freely moved without pain. Breathing and pulse were quick. Temperature 102°. No bruit could be heard, but it was distinctly noted that the cardiac area of dulness was more pronounced than usual, the action of the heart being diffused and forcible. I requested our Resident Medical Officer, Mr. Christopherson, to pay special attention to the state of the heart, and to make frequent examination for the purpose of determining the earliest moment at which the murmur should show itself. The following morning a faint soft bruit could be heard at the apex, the tone of which gradually deepened; and at my next visit, three days later, a clear well-marked systolic murmur could be heard over the mitral area and extended to the back. At this time the cardiac dulness was less, and the action of the heart not so forcible.

The treatment adopted from the admission of the little patient was small doses of tincture of opium combined with citrate of potash. Two days after admission there was no pain and temperature was normal. The child, although rapidly improving in strength, was kept in bed for some three weeks, with the view of giving rest to the inflamed valve, and when discharged from

hospital there was but a trace of murmur, and no symptom of any dilatation.

These two cases have been alluded to as they each represent the prominent features of rheumatism as seen in child life, and although it would be far from right to lay down an exact course of treatment from the data afforded by two cases, I do not think it will be objected by those who have large experience in the rheumatism of child life, that such acute rheumatic attacks do not call for rigid specific treatment, whether such treatment be by alkalies or salicylates.

It is among the next group, the group, *par excellence*, of acute rheumatism, with all its symptoms standing out in bold relief, that salicylates have apparently their chief therapeutical effect, and we shall find that it is among this group that the remedy can be used with substantial good.

Clinically, as I have before remarked, we find this group coming before us under three aspects, in fact we can divide the group into three minor divisions, and I am confident that such subdivision will help us at the bedside.

First, we notice cases of typical acute sthenic rheumatism, the symptoms of which are too well known to bear description.

Secondly, we see cases characterised as sub-acute, and without doubt these cases materially differ from the last. I would consider under this head patients with not only symptoms of depressed type, but those who, with this atonic condition, show a marked tendency to relapse. Their illness, moreover, is very frequently marked by a prolonged invasion period. Such patients will complain of having been ill with indefinite symptoms, may be for weeks before the painful swollen joint at once clinches the diagnosis, and then reading back, the symptoms, indefinite though they may be, all point clearly to a prodromal rheumatic condition, which is characterised by vague aching pains, by an unusual tendency to perspiration, by disordered digestion, and coated tongue.

In many of such cases we see the blood poor in colouring matter, and the patients are anæmic as compared with those suffering from an attack of more sthenic type. There is, again, a tendency for the affected joints to remain swollen and stiff long after all pyrexia has subsided. In fact take the symptoms one by one and compare them carefully with those met with in the preceding group; we find the disease presenting a different aspect.

In a third division I will place those patients suffering from ordinary acute or sub-acute rheumatism, but with strongly-marked neurotic tendencies, patients with a nervous equilibrium easily disturbed. Whether such unstable equilibrium be due to congenital peculiarity, or to effect of alcoholic excess upon the organism, it cannot be doubted but that individuals addicted to alcohol pass through acute rheumatic attacks with great danger, and that such a damaged state of nervous system is a factor which demands much care when treating such cases.

Granting that acute rheumatism is presented to us under the conditions or in form as alluded to above, we should inquire whether these several conditions or forms are to be treated from the same standpoint.

In other words, is the patient suffering from acute sthenic rheumatism to be treated in the same manner as the ill-conditioned anæmic girl, who, after weeks of ill-defined illness, is seized with an acute rheumatic attack? Is the young man who, from his history, we are fully aware, has led an intemperate life—is he, simply because his illness is that known as acute rheumatism, to be treated in the same manner? Such cases, from the very first, are as much wanting in nerve power as those of the degenerate type are wanting in rich red blood.

It is with patients suffering from acute sthenic rheumatism of ordinary pronounced type that we find salicylates exerting their most powerful effect for good. It is in this class we find such rapid defervescence with loss of pain, but disappointing as it is without concomitant lessened liability to cardiac complication.

I do not think the same good does follow the use of the remedy in cases of more degenerate type, and I have met with several cases where the use of the remedy has been followed by much prostration and general weakness. I should add that in some of these cases the remedy had been continued for a lengthened period and the patient much debilitated by its prolonged use.

Acute rheumatism occurring among weakened anæmic impoverished subjects, with a temperature hovering at or about  $100^{\circ}$ , with urine frequently clear, or if turbid with pale lithates, with perspiration which has not the characteristic sour odour, is benefited by a treatment based upon more tonic principles, and the use of salicylates, if given at all, should be for the purpose of relieving the pain, for which a dose or two is often amply sufficient.

From my own experience I do not find it expedient to push the remedy in these cases, and I have found more general relief from salicine than salicylates.

In these atonic cases using salicine or salicylates of soda as an anodyne only, and giving it with bicarbonate of potash in moderate doses, effervescing with lemon juice, we may often find good results. Certainly in my own practice a better result has followed than when the patient from first to last has been treated with salicylates.

If there is much anæmia, I am in the habit of giving a few grains of tartrate of iron, or the perchloride in small doses combined with acetate of ammonia, and, if there is much restlessness and disturbance at night, alcohol and opium.

In following a strict salicylate treatment, I have often recognised a difficulty in knowing at what period of the illness it is advisable to leave off the remedy. A medical man called me in to see his child, aged 15, who had been ill three weeks with acute rheumatism and severe cardiac complication. Salicylates had been persevered with, but still the temperature remained high, and the pains were as great. After two days of treatment consisting of perchloride of iron and acetate of ammonia, with free use of brandy, the pains left, and the temperature became normal, and there was no subsequent relapse.

A lady, aged 22, came to see me, suffering from rheumatism of an atonic type. She had been suffering for four months. The attack commenced as acute rheumatism. She had taken salicylate and was still taking the remedy when I was consulted. She was breathless, anæmic, with puffy ankles, and a loud systolic murmur. I cannot believe that in such a case the prolonged use of salicylate can be attended with any benefit. But lately I was requested to see a severe case of rheumatism. The patient, a young woman, had been treated from the commencement of attack with full doses of salicylate. Some days after the treatment had been commenced she was seized with pericarditis. When I saw her she was dangerously ill and depressed, and within a few hours she died. I could not forbear thinking whether her chances of recovery had been impeded by the treatment; certainly in old days cardiac complications were not usually looked upon as directly dangerous to life.

Cases such as the following are not uncommon. E. E., a

servant girl, aged 22, was admitted into the West London Hospital under my care, on the 11th June, 1887. She was suffering from her first attack of acute rheumatism. She stated that she had been ailing for about four weeks, suffering from aching pains in joints, weakness and perspirations. During the past week she had been much worse.

The patient looked ill, but her constitutional symptoms were not severe, pulse being about 90, and temperature  $99^{\circ}$ . Tongue much coated. Perspiration very profuse. There was no cardiac trouble. Six hours after admission she was given salicylate of soda in 20 grain doses every three hours. The following morning (the 12th) all pain had gone, but temperature was higher—being  $101^{\circ}$ , and she was sweating profusely.

The following day (the 13th) there was still complete freedom from pain and the temperature now being normal. It was on the afternoon of this day that I saw the patient for the first time. She expressed herself as being quite free from pain, but complained much of headache. Her temperature was normal, but the pulse quick and very compressible. She was bathed in perspiration, which was streaming from every pore. I ordered the salicylate to be discontinued, but late that night the resident medical officer, finding that the temperature had run up to  $101^{\circ}$ —though without return of pain—again placed her on salicylates. She took the remedy during the following two days. It had no effect upon the temperature. The general prostration being now very great, the remedy was again discontinued; the patient was now restless and delirious, requiring the constant attention of a nurse to prevent her getting out of bed. The temperature remaining at  $102^{\circ}$ . She now had an endocardial bruit and return of pain and pyrexia, and for some days was most dangerously ill. Placed on a treatment consisting of effervescing citrate of ammonia, six ounces of brandy, and an occasional dose of opium. Improvement took place and the patient made a good recovery.

With special reference to appropriate treatment I would place in a third division those patients the subjects of an easily-disturbed, explosive, unstable, nervous system. Such patients are prone to mental excitement, with wandering at night. They are generally the subjects of mobile temperature—a temperature easily influenced by fatigue, anxiety, or excitement.

Among these cases we must place those whose nervous systems

have suffered from intemperance; early delirium being a marked characteristic of such a condition, and, just as we frequently find patients of intemperate habits rapidly become delirious when passing through an attack of pneumonia or typhoid, so we find that they are equally prone to delirium when under the influence of acute rheumatism.

It may be urged that in drawing attention to this group of cases I am describing those in whom there is a tendency to hyperpyrexia; but it must not be forgotten that we meet with hyperpyrexia under different aspects. We find cases in which the temperature rapidly rises—cases in which it gradually rises, and then quickly assumes a dangerous height—cases in which the pyrexia is high from the commencement of the seizure, with tendency to range high, especially at night. It is to this last group that my remarks refer, and I believe such cases will be found principally among patients who, if not actually intemperate, are markedly intolerant of the influence of alcohol or who have an unbalanced nervous system.

I have before me the temperature chart of such a case. A man, aged 32, of known intemperate habits, a potman by trade, was admitted into the North-West London Hospital, under my care, suffering from well-marked rheumatic fever. His temperature on admission being  $102^{\circ}$ . He was given 15 grains of salicylate of soda in peppermint-water every four hours. Two days later he was first seen by me; he was restless and had been furiously delirious, and his temperature showed a tendency to mount, and on that evening reached  $105^{\circ}$ . He was sponged and given an ounce of brandy every two hours. During the following six days he was dangerously ill, the alcohol appeared to reduce both delirium and temperature; the quantity of brandy varied from 14 to 8 ounces during the twenty-four hours, and I was assured by the resident medical officer that it controlled the temperature and that the patient slept after its use. On the seventh day the temperature commenced slowly to fall, and with the exception of one sharp and sudden rise it continued to fall, and was normal on the twenty-ninth day after admission. There was no complication during the attack, and the patient was discharged well six weeks after admission. Certainly in this case the administration of the salicylate was followed by increased temperature with furious delirium. On substituting for the remedy stimulants and cold sponging, the temperature and delirium were under control.

It would be of the utmost importance if we could ascertain what, if any, prodroma lead up to hyperpyrexia. The cases which I have seen certainly lead me to think that in very many cases the prodroma are very slight, and they are only to be ascertained by making very careful examination of the patient. The first symptom, a very important one, is a slight wandering at night. This symptom becomes all the more important as it is undoubtedly true, that in a very large majority of cases of acute rheumatism, even night wandering is absent. In fact, the patient may pass through a pronounced severe attack, and have *no symptom* of delirium. Upon such an important point I will not ask you to take my own opinion, but I will direct your attention to corroborative evidence. Senator, in his article on acute rheumatism in the 16th volume of Ziemssenn, writes as follows: "Apart from rare exceptions to be alluded to hereafter, the patient's mind remained unclouded during the whole course of the disease. Delirium is either absent altogether, or there may be a little wandering in specially sensitive or irritable patients when the fever undergoes an exacerbation." I say, then, that it is of the utmost importance to accurately estimate the value of delirium in whatever form it may occur.

Again, an irregular temperature may help us in being forewarned. The temperature of acute rheumatism in a very large majority of cases is at its height on admission of the patient or immediately after such admission.

Temperature which shows a disposition to mount high is to be looked upon with suspicion; it is often a danger signal of great importance. Wunderlick, writing on the temperature of rheumatic fever, makes the following statement, which I believe clinical experience will still uphold. He says, p. 326, in the Sydenham Translation, "Even the height of the fever is very often not completely under our observation, for it is very remarkable, as regards the course of articular rheumatism that in an overwhelming majority of hospital cases, the maximum temperature is reached either on the day of admission or almost directly after."

Such then is the evidence I have to offer with regard to the advisability of grouping by themselves those cases of acute rheumatism, in which the disease is complicated with nervous symptoms. I have already drawn your attention to the large proportion of patients treated by salicylates who are affected more

or less with delirium; it is doubtless necessary to use the remedy in this class of case with extreme caution. And I would further suggest that in all cases of rising temperature the remedy be at once discontinued. The evidence is overwhelming that as a remedy against hyperpyrexia salicylates are useless, if not dangerous.

Cases of acute rheumatism complicated with nervous symptoms are not limited to that period of life in which acute rheumatic attacks are most frequently met with. I have fixed an artificial limit at thirty-five years of age in the collection of cases which I have tabulated, but I do not for a moment wish it to be inferred that cases of acute rheumatism are not met with after that period of life. But it is true that as age advances acute attacks do lose their purity, and they gradually pass into the group which I have before alluded to, and which I have described as being anomalous in their character.

Acute rheumatism occurring between the age of thirty-five and fifty, although comparatively a rare disease, is one which demands much care. Some cases may verge on gout, others may be of true rheumatic nature. If the nervous system has been injured by alcohol there is much danger to be feared from delirium and hyperpyrexia. In an early part of my paper I have quoted cases in which the premonitory symptoms have been of ordinary intensity, but in which the temperature under salicylate treatment has suddenly risen, ushering in a fatal hyperpyrexia.

Salicylates when made use of among cases which present anomalous symptoms should be used with caution; they may be given to relieve pain, but I doubt if its prolonged use is called for in those cases where the remedy having been freely given for forty-eight hours there is no remission of temperature, notwithstanding the fact that pain has been completely subdued.

Again, I do not countenance its prolonged use in those cases where relapse rapidly follows relapse.

The treatment of ordinary acute sthenic rheumatism, occurring during adult life, need present but little difficulty. In these cases it is an experience common to us all that salicylates may be given with advantage. I believe the advantage to be greater and more permanent where they are given in combination with alkalies. But does the same hold good when the attack is complicated with the severer forms of pulmonary or cardiac inflammation? com-

plications which appear when the patient is thoroughly under the influence of the remedy.

My own experience would lead me to say no, and inasmuch as in many of these cases, coincident with the cardiac or pulmonary inflammation, there is a decided mitigation, or even absence of joint pain, there is not the same indication for using the drug.

Tables I and II (pages 6 and 7) have been formed from the following cases of acute sthenic rheumatism:—

### PATIENTS TREATED WITHOUT SALICYLATES.

#### PAINS CEASING ON FIRST DAY.

| <i>Without complications.</i> |      |      |                 |                             | <i>With complications.</i> |      |      |                 |                             |
|-------------------------------|------|------|-----------------|-----------------------------|----------------------------|------|------|-----------------|-----------------------------|
| Name.                         | Sex. | Age. | Duration, days. | Ill before admission, days. | Name.                      | Sex. | Age. | Duration, days. | Ill before admission, days. |
|                               |      |      | None.           |                             | F. W.                      | M    | 25   | 32              | 60                          |
|                               |      |      |                 |                             | G. G.                      | M    | 24   | 24              | 42                          |
|                               |      |      |                 |                             | S. B.                      | F    | 22   | 32              | 5                           |

#### PAINS CEASING ON SECOND DAY.

|       |   |    |    |    |       |   |    |    |    |
|-------|---|----|----|----|-------|---|----|----|----|
| A. W. | F | 8  | 7  | 8  | A. H. | F | 15 | 43 | 28 |
| M. C. | F | 25 | 26 | 21 | M. W. | F | 13 | 15 | 70 |
| J. L. | F | 35 | 11 | 42 | S. E. | F | 19 | 12 | 14 |
| F. S. | F | 17 | 8  | 7  | M. M. | F | 22 | 7  | 12 |
| S. E. | F | 26 | 21 | ?  | C. G. | M | 20 | 20 | 4  |
| H. F. | M | 20 | 3  | 2  | J. G. | M | 13 | 16 | 7  |
|       |   |    |    |    | J. H. | M | 25 | 14 | 7  |
|       |   |    |    |    | J. H. | M | 25 | 10 | 5  |

#### PAINS CEASING ON THIRD DAY.

|       |   |    |    |    |       |   |    |    |    |
|-------|---|----|----|----|-------|---|----|----|----|
| G. C. | M | 20 | 28 | 10 | W. G. | M | 13 | 29 | 28 |
| J. B. | M | 14 | 19 | 3  | W. D. | M | 7  | 14 | 3  |
| J. C. | M | 19 | 11 | 21 | J. S. | M | 15 | 11 | 4  |
| G. B. | M | 16 | 17 | 7  | J. B. | M | 23 | 22 | 3  |
| H. M. | F | 14 | 22 | 14 | H. H. | M | 25 | 18 | 14 |
| S. G. | F | 30 | 26 | 14 | E. K. | M | 31 | 25 | 14 |
| A. K. | F | 25 | 15 | 35 | T. H. | M | 27 | 12 | 21 |
| E. D. | F | 14 | 53 | 4  | H. P. | M | 18 | 91 | 2  |
| C. A. | F | 34 | 65 | 4  | E. W. | F | 17 | 65 | 14 |
|       |   |    |    |    | A. C. | F | 9  | 35 | 3  |
|       |   |    |    |    | S. K. | F | 31 | 22 | 10 |
|       |   |    |    |    | M. K. | F | 19 | 35 | 29 |
|       |   |    |    |    | S. G. | F | 25 | 62 | 10 |

#### PAINS CEASING ON FOURTH DAY.

|       |   |    |    |    |       |   |    |    |    |
|-------|---|----|----|----|-------|---|----|----|----|
| R. C. | M | 28 | 12 | 90 | F. W. | M | 7  | 9  | 7  |
| T. S. | M | 22 | 22 | 2  | H. S. | M | 21 | 74 | 4  |
| F. D. | M | 20 | 29 | 10 | J. H. | M | 12 | 14 | 21 |
| C. F. | M | 10 | 26 | 10 | A. R. | M | 22 | 22 | 49 |
| W. S. | M | 26 | 20 | 3  | G. F. | M | 16 | 29 | 4  |
| C. W. | F | 21 | 17 | 3  | F. L. | M | 23 | 17 | 4  |

PAINS CEASING ON FOURTH DAY—*cont.**Without complications.*

| Name. | Sex. | Age. | Duration,<br>days. | Ill before<br>admission,<br>days. |
|-------|------|------|--------------------|-----------------------------------|
| A. G. | F    | 28   | 21                 | 21                                |
| E. H. | F    | 28   | 30                 | 29                                |
| E. T. | F    | 24   | 25                 | 14                                |

*With complications.*

| Name. | Sex. | Age. | Duration,<br>days. | Ill before<br>admission,<br>days. |
|-------|------|------|--------------------|-----------------------------------|
| C. C. | F    | 19   | 34                 | 14                                |
| M. G. | F    | 15   | 50                 | 60                                |
| E. W. | F    | 30   | 46                 | 90                                |
| L. C. | F    | 16   | 48                 | 30                                |
| M. B. | F    | 32   | 22                 | 8                                 |
| M. G. | F    | 19   | 11                 | 2                                 |
| M. N. | F    | 28   | 21                 | 3                                 |

## PAINS CEASING ON FIFTH OR SIXTH DAY.

|       |   |    |    |     |       |   |    |    |    |
|-------|---|----|----|-----|-------|---|----|----|----|
| R. P. | M | 19 | 38 | 8   | A. H. | M | 20 | 28 | 6  |
| S. D. | M | 16 | 21 | 3   | J. A. | M | 8  | 87 | 16 |
| G. C. | M | 21 | 15 | 7   | J. M. | M | 23 | 26 | 4  |
| J. L. | M | 16 | 16 | 3   | H. H. | M | 26 | 47 | 7  |
| W. C. | M | 26 | 27 | 7   | W. C. | M | 28 | 13 | 8  |
| S. S. | M | 15 | 23 | 6   | A. W. | M | 14 | 31 | 6  |
| G. J. | M | 21 | 10 | 63  | H. T. | M | 21 | 47 | 5  |
| C. E. | M | 25 | 14 | 4   | D. H. | M | 28 | 69 | 9  |
| F. L. | M | 14 | 47 | 7   | J. M. | M | 28 | 41 | 26 |
| M. D. | M | 24 | 24 | 21  | V. L. | M | 23 | 28 | 28 |
| J. M. | M | 16 | 29 | 6   | J. N. | M | 27 | 75 | 14 |
| J. L. | M | 23 | 28 | 5   | G. B. | M | 17 | 14 | 7  |
| J. H. | M | 27 | 9  | 5   | C. R. | M | 12 | 57 | 35 |
| R. R. | M | 12 | 9  | 6   | S. B. | M | 20 | 43 | 6  |
| R. W. | M | 22 | 30 | 60  | J. S. | M | 19 | 41 | 29 |
| J. B. | M | 21 | 28 | 4   | E. P. | M | 21 | 29 | 13 |
| J. B. | M | 23 | 20 | 5   | J. C. | M | 11 | 17 | 4  |
| A. H. | M | 30 | 49 | 42  | H. B. | M | 12 | 21 | 39 |
| J. K. | M | 19 | 20 | 35  | J. C. | M | 28 | 15 | 7  |
| J. S. | M | 19 | 16 | 21  | T. P. | M | 20 | 19 | 5  |
| N. C. | M | 29 | 27 | 4   | A. B. | M | 15 | 19 | 7  |
| H. K. | M | 21 | 55 | 8   | A. H. | M | 16 | 51 | 6  |
| A. D. | M | 23 | 27 | 9   | J. S. | M | 13 | 31 | 14 |
| P. W. | M | 25 | 18 | 14  | M. R. | F | 18 | 14 | 7  |
| J. L. | M | 22 | 10 | 4   | E. M. | F | 23 | 64 | 14 |
| J. G. | M | 20 | 15 | 7   | M. B. | F | 24 | 13 | 2  |
| G. C. | M | 25 | 84 | 5   | C. D. | F | 32 | 35 | 5  |
| A. G. | F | 21 | 33 | 28  | M. B. | F | 20 | 24 | 4  |
| J. W. | F | 16 | 59 | 4   | J. G. | F | 29 | 28 | 42 |
| J. L. | F | 7  | 21 | 4   | F. S. | F | 22 | 16 | 7  |
| E. H. | F | 15 | 29 | 28  | M. W. | F | 13 | 37 | 4  |
| L. B. | F | 24 | 10 | 21  | A. M. | F | 28 | 42 | 11 |
| M. H. | F | 31 | 34 | 10  | S. B. | F | 18 | 33 | 6  |
| C. B. | F | 18 | 8  | 7   | A. S. | F | 18 | 37 | 3  |
| S. C. | F | 27 | 12 | 4   | J. H. | F | 16 | 66 | 7  |
| M. G. | F | 24 | 16 | 6   | L. S. | F | 22 | 31 | 3  |
| M. C. | F | 25 | 37 | 5   | M. P. | F | 12 | 34 | 4  |
| A. B. | F | 16 | 14 | 7   |       |   |    |    |    |
| G. W. | F | 19 | 15 | 14  |       |   |    |    |    |
| C. B. | F | 19 | 17 | 120 |       |   |    |    |    |
| A. B. | F | 15 | 14 | 10  |       |   |    |    |    |
| S. D. | F | 30 | 10 | 4   |       |   |    |    |    |

## PAINS CEASING ON SEVENTH OR EIGHTH DAY.

*Without complications.*

| Name. | Sex. | Age. | Duration,<br>days. | Ill before<br>admission,<br>days. |
|-------|------|------|--------------------|-----------------------------------|
| J. B. | M    | 30   | 42                 | 6                                 |
| H. G. | M    | 30   | 31                 | 4                                 |
| A. H. | M    | 20   | 27                 | 14                                |
| S. C. | M    | 22   | 23                 | 6                                 |
| J. H. | M    | 27   | 43                 | 21                                |
| T. R. | M    | 23   | 22                 | 4                                 |
| H. C. | M    | 22   | 37                 | 7                                 |
| J. S. | M    | 24   | 15                 | 10                                |
| W. B. | M    | 23   | 38                 | 6                                 |
| J. T. | M    | 12   | 16                 | 2                                 |
| S. P. | M    | 30   | 38                 | 3                                 |
| F. B. | M    | 15   | 28                 | 16                                |
| W. R. | M    | 23   | 19                 | 7                                 |
| J. L. | M    | 14   | 17                 | 7                                 |
| R. W. | M    | 29   | 27                 | 11                                |
| J. M. | M    | 25   | 23                 | 7                                 |
| W. J. | M    | 19   | 16                 | 42                                |
| L. S. | M    | 24   | 31                 | 2                                 |
| L. B. | M    | 31   | 40                 | 7                                 |
| S. V. | F    | 24   | 30                 | 4                                 |
| A. R. | F    | 17   | 35                 | 7                                 |
| S. A. | F    | 23   | 25                 | 3                                 |
| L. B. | F    | 20   | 10                 | 9                                 |
| E. B. | F    | 8    | 26                 | 4                                 |
| C. F. | F    | 10   | 34                 | 6                                 |
| J. B. | F    | 24   | 15                 | 7                                 |
| J. H. | F    | 13   | 76                 | 6                                 |
| L. W. | F    | 23   | 32                 | 14                                |
| M. D. | F    | 19   | 36                 | 10                                |
| A. C. | F    | 21   | 17                 | 6                                 |
| A. D. | F    | 13   | 37                 | 8                                 |
| S. R. | F    | 28   | 27                 | 5                                 |
| G. W. | F    | 20   | 19                 | 6                                 |

*With complications.*

| Name. | Sex. | Age. | Duration,<br>days. | Ill before<br>admission,<br>days. |
|-------|------|------|--------------------|-----------------------------------|
| J. S. | M    | 22   | 31                 | 4                                 |
| A. L. | M    | 34   | 33                 | 7                                 |
| B. P. | M    | 18   | 19                 | 4                                 |
| C. M. | M    | 25   | 26                 | 2                                 |
| J. D. | M    | 18   | 32                 | 2                                 |
| J. H. | M    | 23   | 22                 | 18                                |
| N. B. | M    | 16   | 25                 | 9                                 |
| J. D. | M    | 16   | 45                 | 9                                 |
| J. C. | M    | 22   | 27                 | 28                                |
| H. P. | M    | 33   | 96                 | 4                                 |
| J. S. | M    | 19   | 19                 | 35                                |
| H. M. | M    | 23   | 14                 | 4                                 |
| W. B. | M    | 19   | 43                 | 23                                |
| J. F. | M    | 7    | 61                 | 9                                 |
| E. D. | M    | 18   | 26                 | 21                                |
| E. T. | M    | 8    | 30                 | 7                                 |
| F. H. | M    | 19   | 35                 | 7                                 |
| T. H. | M    | 29   | 37                 | 5                                 |
| A. R. | M    | 15   | 67                 | 7                                 |
| J. B. | M    | 30   | 26                 | 10                                |
| L. M. | M    | 19   | 31                 | 14                                |
| C. L. | F    | 24   | 21                 | 60                                |
| A. D. | F    | 15   | 29                 | 8                                 |
| R. S. | F    | 16   | 43                 | 4                                 |
| J. H. | F    | 14   | 13                 | 14                                |
| C. S. | F    | 20   | 27                 | 7                                 |
| C. M. | F    | 17   | 34                 | 2                                 |
| H. S. | F    | 17   | 38                 | 7                                 |
| E. S. | F    | 29   | 66                 | ?                                 |
| I. S. | F    | 22   | 48                 | 7                                 |
| M. E. | F    | 19   | 41                 | 7                                 |
| E. W. | F    | 30   | 34                 | 21                                |
| E. S. | F    | 18   | 58                 | 7                                 |
| A. K. | F    | 13   | 36                 | 14                                |
| S. T. | F    | 24   | 19                 | 11                                |
| A. S. | F    | 20   | 91                 | ?                                 |
| M. K. | F    | 19   | 20                 | 6                                 |
| J. H. | F    | 26   | 31                 | 60                                |

## PAINS CEASING ON NINTH TO FIFTEENTH DAYS.

| Name. | Sex. | Age. | Dura-<br>tion,<br>days. | Ill before<br>admission,<br>days. | Day<br>pain<br>ceased. | Name. | Sex. | Age. | Dura-<br>tion,<br>days. | Ill before<br>admission,<br>days. | Day<br>pain<br>ceased. |
|-------|------|------|-------------------------|-----------------------------------|------------------------|-------|------|------|-------------------------|-----------------------------------|------------------------|
| J. D. | M    | 26   | 39                      | 21                                | 14                     | M. H. | M    | 23   | 42                      | 2                                 | 11                     |
| C. P. | M    | 16   | 40                      | —                                 | 14                     | F. L. | M    | 17   | 20                      | 3                                 | 13                     |
| F. H. | M    | 19   | 69                      | 7                                 | 9                      | J. R. | M    | 28   | 39                      | 7                                 | 10                     |
| W. P. | M    | 27   | 36                      | 4                                 | 13                     | J. S. | M    | 19   | 34                      | ?                                 | 14                     |
| H. G. | M    | 23   | 28                      | 15                                | 12                     | A. B. | M    | 22   | 25                      | 35                                | 12                     |
| W. H. | M    | 32   | 16                      | 90                                | 13                     | C. C. | M    | 16   | 36                      | 8                                 | 10                     |
| W. R. | M    | 19   | 52                      | 14                                | 9                      | D. H. | M    | 13   | 42                      | 14                                | 12                     |
| D. S. | M    | 13   | 27                      | 35                                | 13                     | R. H. | M    | 19   | 61                      | 10                                | 10                     |
| J. N. | M    | 31   | 21                      | 4                                 | 10                     | G. J. | M    | 14   | 20                      | 8                                 | 9                      |
| T. B. | M    | 19   | 16                      | 6                                 | 10                     | J. M. | M    | 20   | 93                      | 3                                 | 14                     |

PAINS CEASING ON NINTH TO FIFTEENTH DAYS—*cont.**Without complications.*

| Name. | Sex. | Age. | Dura-<br>tion,<br>days. | Ill before<br>admission,<br>days. | Day<br>pain<br>ceased. |
|-------|------|------|-------------------------|-----------------------------------|------------------------|
| W. F. | M    | 18   | 28                      | 7                                 | 9                      |
| W. B. | M    | 26   | 40                      | 8                                 | 14                     |
| W. B. | M    | 26   | 20                      | 14                                | 10                     |
| J. H. | M    | 26   | 33                      | 3                                 | 9                      |
| J. R. | M    | 21   | 25                      | 14                                | 15                     |
| C. G. | M    | 22   | 27                      | 4                                 | 12                     |
| E. F. | M    | 31   | 14                      | 14                                | 12                     |
| H. R. | M    | 27   | 27                      | 27                                | 12                     |
| W. C. | M    | 19   | 26                      | 14                                | 11                     |
| W. N. | M    | 34   | 21                      | 5                                 | 13                     |
| J. S. | M    | 31   | 34                      | 4                                 | 14                     |
| M. B. | M    | 19   | 35                      | 6                                 | 12                     |
| R. S. | M    | 15   | 30                      | 10                                | 10                     |
| H. H. | M    | 19   | 31                      | 2                                 | 11                     |
| S. S. | F    | 19   | 79                      | 6                                 | 11                     |
| M. C. | F    | 19   | 42                      | 3                                 | 14                     |
| S. B. | F    | 19   | 36                      | 7                                 | 9                      |
| E. F. | F    | 21   | 28                      | 4                                 | 9                      |
| J. L. | F    | 28   | 28                      | 7                                 | 12                     |
| E. G. | F    | 30   | 37                      | 60                                | 9                      |
| C. W. | F    | 4    | 33                      | 4                                 | 9                      |
| M. N. | F    | 22   | 20                      | 3                                 | 13                     |
| S. R. | F    | 20   | 43                      | 21                                | 9                      |
| E. H. | F    | 14   | 32                      | 3                                 | 13                     |
| A. B. | F    | 25   | 23                      | 7                                 | 13                     |
| E. L. | M    | 27   | 27                      | 90                                | 9                      |
| D. S. | M    | 28   | 26                      | 12                                | 9                      |
| S. C. | M    | 22   | 43                      | 10                                | 9                      |
| J. S. | M    | 24   | 37                      | 4                                 | 14                     |
| J. B. | M    | 16   | 28                      | 21                                | 12                     |
| E. G. | M    | 20   | 41                      | 21                                | 9                      |
| G. S. | M    | 20   | 28                      | 5                                 | 14                     |
| J. M. | M    | 17   | 17                      | 4                                 | 11                     |
| H. C. | M    | 20   | 19                      | 5                                 | 10                     |
| R. B. | M    | 16   | 35                      | 28                                | 10                     |
| G. L. | M    | 27   | 34                      | 10                                | 12                     |
| N. C. | M    | 26   | 56                      | 6                                 | 11                     |
| W. W. | M    | 19   | 29                      | 42                                | 15                     |
| W. R. | M    | 19   | 33                      | 16                                | 15                     |
| W. W. | M    | 25   | 31                      | 7                                 | 12                     |
| F. N. | M    | 25   | 24                      | 6                                 | 10                     |
| J. S. | M    | 18   | 36                      | 5                                 | 11                     |
| H. B. | M    | 30   | 13                      | 35                                | 13                     |
| N. B. | M    | 20   | 15                      | —                                 | 11                     |
| J. A. | M    | 31   | 18                      | 120                               | 10                     |
| W. P. | M    | 34   | 32                      | 28                                | 16                     |
| J. D. | M    | 22   | 27                      | 14                                | 13                     |
| T. T. | M    | 28   | 40                      | 3                                 | 11                     |
| F. F. | M    | 34   | 30                      | 8                                 | 12                     |
| M. L. | F    | 34   | 13                      | 21                                | 12                     |
| S. B. | F    | 26   | 39                      | 14                                | 14                     |
| E. S. | F    | 19   | 47                      | 14                                | 12                     |
| A. S. | F    | 30   | 20                      | 14                                | 13                     |

*With complications.*

| Name. | Sex. | Age. | Dura-<br>tion,<br>days. | Ill before<br>admission,<br>days. | Day<br>pain<br>ceased. |
|-------|------|------|-------------------------|-----------------------------------|------------------------|
| F. L. | M    | 30   | 26                      | 7                                 | 12                     |
| W. G. | M    | 21   | 42                      | 7                                 | 15                     |
| J. M. | M    | 28   | 37                      | 14                                | 13                     |
| F. S. | M    | 16   | 21                      | 23                                | 10                     |
| G. S. | M    | 19   | 22                      | 7                                 | 12                     |
| F. R. | M    | 24   | 19                      | ?                                 | 13                     |
| R. G. | M    | 24   | 52                      | 5                                 | 12                     |
| A. M. | M    | 19   | 38                      | 4                                 | 11                     |
| C. E. | M    | 17   | 55                      | 3                                 | 12                     |
| W. B. | M    | 23   | 64                      | 7                                 | 13                     |
| F. A. | M    | 24   | 35                      | 12                                | 10                     |
| J. D. | M    | 19   | 22                      | 14                                | 15                     |
| H. B. | M    | 17   | 33                      | 28                                | 10                     |
| D. H. | M    | 28   | 43                      | 14                                | 11                     |
| W. P. | M    | 29   | 29                      | 4                                 | 13                     |
| W. R. | M    | 25   | 31                      | 7                                 | 11                     |
| H. E. | M    | 18   | 37                      | 5                                 | 12                     |
| J. C. | M    | 32   | 37                      | 21                                | 15                     |
| C. B. | M    | 29   | 31                      | 28                                | 11                     |
| C. G. | M    | 19   | 30                      | 14                                | 15                     |
| P. C. | M    | 19   | 21                      | 4                                 | 10                     |
| M. H. | M    | 20   | 79                      | 21                                | 9                      |
| G. J. | M    | 23   | 56                      | 4                                 | 15                     |
| J. G. | F    | 29   | 28                      | 42                                | 9                      |
| S. R. | F    | 17   | 82                      | 14                                | 9                      |
| L. W. | F    | 23   | 25                      | 2                                 | 15                     |
| J. G. | F    | 19   | 66                      | 5                                 | 14                     |
| M. L. | F    | 29   | 46                      | 14                                | 14                     |
| C. J. | F    | 16   | 10                      | 4                                 | 9                      |
| E. R. | F    | 18   | 41                      | 3                                 | 10                     |
| C. S. | F    | 15   | 26                      | 14                                | 10                     |
| A. B. | F    | 22   | 35                      | 7                                 | 10                     |
| M. F. | F    | 7    | 31                      | 3                                 | 14                     |
| J. G. | F    | 26   | 25                      | 4                                 | 11                     |
| J. D. | F    | 5    | 40                      | 2                                 | 9                      |
| C. M. | F    | 14   | 32                      | 5                                 | 12                     |
| M. H. | F    | 13   | 22                      | 14                                | 9                      |
| M. G. | F    | 12   | 50                      | 4                                 | 11                     |
| C. A. | F    | 20   | 37                      | 5                                 | 14                     |
| E. C. | F    | 10   | 49                      | 28                                | 10                     |
| L. C. | F    | 13   | 33                      | 7                                 | 9                      |
| G. R. | F    | 21   | 23                      | 10                                | 12                     |
| M. N. | F    | 24   | 22                      | 7                                 | 13                     |
| E. B. | F    | 17   | 34                      | 8                                 | 9                      |
| C. B. | F    | 18   | 47                      | 7                                 | 15                     |
| A. H. | F    | 15   | 56                      | 42                                | 11                     |
| A. W. | F    | 16   | 19                      | 4                                 | 13                     |
| K. H. | F    | 25   | 31                      | 10                                | 9                      |
| E. S. | F    | 27   | 21                      | 6                                 | 10                     |
| J. O. | F    | 14   | 35                      | 4                                 | 13                     |
| J. M. | F    | 30   | 38                      | 21                                | 14                     |
| M. S. | F    | 15   | 32                      | 7                                 | 13                     |
| P. C. | F    | 18   | 30                      | 3                                 | 10                     |

PAINS CEASING ON NINTH TO FIFTEENTH DAYS—*cont.**Without complications.*

| Name. | Sex. | Age. | Dura-<br>tion,<br>days. | Ill before<br>admission,<br>days. | Day<br>pain<br>ceased. |
|-------|------|------|-------------------------|-----------------------------------|------------------------|
| E. C. | F    | 26   | 25                      | 28                                | 9                      |
| A. S. | F    | 23   | 70                      | 28                                | 15                     |
| J. S. | F    | 18   | 55                      | 8                                 | 9                      |
| M. S. | F    | 27   | 17                      | 7                                 | 10                     |
| S. F. | F    | 30   | 14                      | 20                                | 12                     |
| A. R. | F    | 30   | 29                      | 60                                | 14                     |
| E. R. | F    | 19   | 24                      | 3                                 | 13                     |
| M. E. | F    | 30   | 14                      | 5                                 | 13                     |
| M. G. | F    | 35   | 14                      | 71                                | 12                     |
| J. B. | F    | 20   | 15                      | ?                                 | 11                     |
| S. W. | F    | 18   | 30                      | 5                                 | 17                     |
| S. N. | F    | 12   | 32                      | 4                                 | 9                      |

*With complications.*

| Name. | Sex. | Age. | Dura-<br>tion,<br>days. | Ill before<br>admission,<br>days. | Day<br>pain<br>ceased. |
|-------|------|------|-------------------------|-----------------------------------|------------------------|
| S. B. | F    | 20   | 42                      | 4                                 | 12                     |
| E. C. | F    | 21   | 21                      | 18                                | 11                     |
| E. W. | F    | 14   | 27                      | 13                                | 12                     |
| K. K. | F    | 19   | 46                      | 34                                | 14                     |
| S. H. | F    | 30   | 30                      | 7                                 | 14                     |
| M. A. | F    | 20   | 20                      | 10                                | 13                     |
| J. F. | F    | 18   | 29                      | 12                                | 14                     |
| J. S. | F    | 18   | 47                      | 8                                 | 9                      |
| M. A. | F    | 18   | 39                      | 6                                 | 12                     |
| H. R. | F    | 20   | 42                      | 25                                | 13                     |
| M. R. | F    | 25   | 46                      | 4                                 | 14                     |
| A. D. | F    | 21   | 34                      | 2                                 | 11                     |
| H. K. | F    | 30   | 73                      | 14                                | 12                     |
| A. T. | F    | 21   | 46                      | 3                                 | 15                     |
| S. G. | F    | 19   | 61                      | ?                                 | 9                      |
| M. H. | F    | 33   | 65                      | 4                                 | 9                      |
| J. W. | F    | 16   | 43                      | 4                                 | 12                     |
| C. F. | M    | 29   | 34                      | 28                                | 10                     |
| M. F. | M    | 19   | 48                      | 2                                 | 11                     |
| C. D. | M    | 24   | 17                      | 21                                | 9                      |
| W. G. | M    | 17   | 27                      | 5                                 | 15                     |
| D. C. | M    | 24   | 29                      | 6                                 | 15                     |
| K. G. | M    | 27   | 19                      | 14                                | 14                     |
| T. P. | M    | 22   | 34                      | 5                                 | 13                     |
| T. S. | M    | 18   | 28                      | 4                                 | 11                     |
| J. H. | M    | 16   | 43                      | 5                                 | 15                     |
| L. T. | M    | 19   | 50                      | 12                                | 12                     |
| J. H. | M    | 21   | 42                      | 4                                 | 14                     |
| J. D. | M    | 26   | 23                      | 7                                 | 15                     |
| T. D. | M    | 20   | 15                      | 8                                 | 14                     |
| W. W. | M    | 31   | 35                      | 16                                | 13                     |
| W. G. | M    | 30   | 21                      | 7                                 | 13                     |
| G. G. | M    | 28   | 47                      | 8                                 | 13                     |
| J. K. | M    | 20   | 39                      | 8                                 | 14                     |
| T. B. | M    | 25   | 49                      | 4                                 | 11                     |
| G. G. | M    | 28   | 36                      | 5                                 | 14                     |
| W. K. | M    | 20   | 13                      | 43                                | 14                     |
| J. P. | M    | 7    | 51                      | 14                                | 15                     |
| J. E. | M    | 23   | 84                      | ?                                 | 13                     |
| J. M. | M    | 15   | 23                      | 5                                 | 15                     |
| S. H. | M    | 23   | 59                      | 4                                 | 10                     |
| T. B. | M    | 22   | 64                      | 4                                 | 12                     |
| P. W. | M    | 13   | 44                      | 3                                 | 10                     |
| C. W. | M    | 21   | 43                      | 7                                 | 13                     |
| W. C. | M    | 30   | 32                      | 3                                 | 9                      |
| C. B. | M    | 29   | 49                      | 12                                | 11                     |

## PAINS CEASING ON SIXTEENTH TO TWENTY-SECOND DAYS.

|       |   |    |    |    |    |       |   |    |    |    |    |
|-------|---|----|----|----|----|-------|---|----|----|----|----|
| C. W. | M | 21 | 46 | 7  | 20 | G. A. | M | 27 | 40 | 21 | 21 |
| J. H. | M | 20 | 34 | 7  | 16 | R. D. | M | 20 | 32 | 10 | 21 |
| H. L. | M | 25 | 38 | 3  | 19 | N. C. | M | 24 | 71 | 8  | 18 |
| J. T. | M | 29 | 28 | 10 | 18 | J. J. | M | 13 | 32 | 24 | 21 |

PAINS CEASING ON SIXTEENTH TO TWENTY-SECOND DAYS—*cont.**Without complications.*

| Name. | Sex. | Age. | Dura-<br>tion,<br>days. | Ill before<br>admission,<br>days. | Day<br>pain<br>ceased. |
|-------|------|------|-------------------------|-----------------------------------|------------------------|
| J. B. | M    | 29   | 22                      | 10                                | 12                     |
| G. H. | M    | 25   | 39                      | 2                                 | 22                     |
| W. J. | M    | 31   | 61                      | 14                                | 20                     |
| J. M. | M    | 12   | 34                      | 20                                | 14                     |
| G. C. | M    | 27   | 30                      | 21                                | 19                     |
| H. H. | M    | 12   | 28                      | 7                                 | 18                     |
| G. B. | M    | 22   | 23                      | 4                                 | 18                     |
| R. P. | M    | 24   | 23                      | 49                                | 22                     |
| G. B. | M    | 22   | 33                      | 8                                 | 18                     |
| J. H. | M    | 16   | 25                      | 15                                | 17                     |
| J. B. | M    | 31   | 20                      | 14                                | 19                     |
| A. F. | F    | 18   | 34                      | 14                                | 16                     |
| S. P. | F    | 20   | 55                      | 7                                 | 17                     |
| M. R. | F    | 20   | 40                      | 42                                | 18                     |
| A. H. | F    | 30   | 34                      | 60                                | 21                     |
| H. G. | F    | 23   | 20                      | 14                                | 18                     |
| E. C. | F    | 18   | 33                      | 7                                 | 21                     |
| L. R. | F    | 18   | 40                      | 40                                | 17                     |
| L. R. | F    | 26   | 56                      | 14                                | 17                     |
| R. L. | F    | 21   | 21                      | 7                                 | 20                     |
| S. A. | F    | 20   | 49                      | 28                                | 16                     |
| M. J. | F    | 22   | 27                      | 10                                | 18                     |
| S. R. | F    | 24   | 36                      | 4                                 | 16                     |
| A. E. | F    | 25   | 24                      | 3                                 | 17                     |

*With complications.*

| Name. | Sex. | Age. | Dura-<br>tion,<br>days. | Ill before<br>admission,<br>days. | Day<br>pain<br>ceased. |
|-------|------|------|-------------------------|-----------------------------------|------------------------|
| N. B. | M    | 24   | 83                      | 24                                | 16                     |
| J. L. | M    | 31   | 49                      | 35                                | 21                     |
| C. A. | M    | 31   | 47                      | 20                                | 20                     |
| J. P. | M    | 18   | 33                      | 16                                | 17                     |
| G. S. | M    | 26   | 32                      | 7                                 | 18                     |
| C. B. | M    | 29   | 33                      | 4                                 | 19                     |
| N. K. | M    | 15   | 38                      | 7                                 | 20                     |
| J. S. | M    | 21   | 26                      | 14                                | 21                     |
| W. F. | M    | 18   | 34                      | 14                                | 16                     |
| H. B. | M    | 21   | 46                      | 7                                 | 21                     |
| J. W. | M    | 26   | 49                      | 4                                 | 17                     |
| J. S. | M    | 18   | 52                      | 7                                 | 17                     |
| R. C. | M    | 29   | 26                      | 10                                | 19                     |
| J. W. | M    | 35   | 20                      | 14                                | 17                     |
| J. A. | M    | 27   | 44                      | 18                                | 18                     |
| J. S. | M    | 15   | 51                      | 3                                 | 16                     |
| G. S. | M    | 28   | 43                      | 4                                 | 21                     |
| J. N. | M    | 16   | 35                      | 7                                 | 22                     |
| C. L. | M    | 30   | 80                      | 3                                 | 20                     |
| F. B. | M    | 20   | 30                      | 21                                | 20                     |
| J. H. | M    | 17   | 34                      | 21                                | 16                     |
| W. E. | M    | 34   | 33                      | 21                                | 19                     |
| F. P. | M    | 25   | 51                      | 12                                | 17                     |
| W. L. | M    | 29   | 64                      | 4                                 | 22                     |
| H. R. | M    | 10   | 32                      | 2                                 | 21                     |
| C. R. | M    | 25   | 32                      | 14                                | 18                     |
| G. S. | M    | 30   | 27                      | 35                                | 20                     |
| C. M. | M    | 33   | 26                      | 17                                | 19                     |
| T. W. | M    | 20   | 46                      | 49                                | 21                     |
| J. C. | M    | 14   | 32                      | 6                                 | 16                     |
| S. M. | M    | 31   | 43                      | 12                                | 17                     |
| T. D. | M    | 20   | 69                      | 14                                | 17                     |
| E. F. | F    | 20   | 36                      | 4                                 | 18                     |
| J. H. | F    | 19   | 17                      | 14                                | 16                     |
| C. A. | F    | 21   | 52                      | 5                                 | 16                     |
| M. S. | F    | 31   | 57                      | 7                                 | 17                     |
| E. P. | F    | 16   | 27                      | 20                                | 17                     |
| A. S. | F    | 18   | 32                      | 7                                 | 16                     |
| J. N. | F    | 16   | 32                      | 5                                 | 23                     |
| S. C. | F    | 19   | 52                      | 3                                 | 18                     |
| C. J. | F    | 18   | 54                      | 15                                | 16                     |
| C. H. | F    | 16   | 37                      | 4                                 | 20                     |
| E. H. | F    | 19   | 50                      | 28                                | 16                     |
| E. P. | F    | 19   | 55                      | 14                                | 17                     |
| E. P. | F    | 24   | 32                      | 2                                 | 16                     |
| E. C. | F    | 27   | 23                      | 49                                | 16                     |
| C. L. | F    | 20   | 26                      | 4                                 | 19                     |
| E. P. | F    | 19   | 57                      | 3                                 | 16                     |
| E. G. | F    | 24   | 53                      | 14                                | 18                     |
| W. C. | F    | 16   | 49                      | 8                                 | 18                     |
| M. M. | F    | 26   | 60                      | 4                                 | 19                     |
| C. M. | F    | 18   | 31                      | 28                                | 16                     |

PAINS CEASING ON SIXTEENTH TO TWENTY-SECOND DAYS—*cont.*

| <i>Without complications.</i> |      |      |                         |                                   |                        | <i>With complications.</i> |      |      |                         |                                   |                        |
|-------------------------------|------|------|-------------------------|-----------------------------------|------------------------|----------------------------|------|------|-------------------------|-----------------------------------|------------------------|
| Name.                         | Sex. | Age. | Dura-<br>tion,<br>days. | Ill before<br>admission,<br>days. | Day<br>pain<br>ceased. | Name.                      | Sex. | Age. | Dura-<br>tion,<br>days. | Ill before<br>admission,<br>days. | Day<br>pain<br>ceased. |
|                               |      |      |                         |                                   |                        | M. D.                      | F    | 19   | 44                      | 28                                | 16                     |
|                               |      |      |                         |                                   |                        | C. S.                      | F    | 25   | 28                      | 7                                 | 20                     |
|                               |      |      |                         |                                   |                        | J. W.                      | F    | 19   | 123                     | 4                                 | 20                     |
|                               |      |      |                         |                                   |                        | C. J.                      | F    | 22   | 48                      | 18                                | 18                     |
|                               |      |      |                         |                                   |                        | A. L.                      | F    | 24   | 46                      | 14                                | 19                     |
|                               |      |      |                         |                                   |                        | B. P.                      | F    | 20   | 40                      | 8                                 | 19                     |
|                               |      |      |                         |                                   |                        | W. B.                      | F    | 22   | 53                      | 4                                 | 22                     |
|                               |      |      |                         |                                   |                        | M. F.                      | F    | 30   | 45                      | 18                                | 17                     |
|                               |      |      |                         |                                   |                        | H. G.                      | F    | 33   | 43                      | 10                                | 21                     |
|                               |      |      |                         |                                   |                        | A. B.                      | F    | 33   | 22                      | 14                                | 17                     |
|                               |      |      |                         |                                   |                        | J. W.                      | F    | 19   | 42                      | 10                                | 20                     |
|                               |      |      |                         |                                   |                        | J. N.                      | F    | 22   | 29                      | 4                                 | 20                     |
|                               |      |      |                         |                                   |                        | J. D.                      | F    | 26   | 25                      | 12                                | 21                     |
|                               |      |      |                         |                                   |                        | L. H.                      | F    | 12   | 37                      | 3                                 | 17                     |
|                               |      |      |                         |                                   |                        | F. C.                      | F    | 18   | 24                      | 7                                 | 14                     |
|                               |      |      |                         |                                   |                        | E. P.                      | F    | 18   | 33                      | 12                                | 22                     |
|                               |      |      |                         |                                   |                        | J. C.                      | F    | 23   | 43                      | 21                                | 16                     |

## PAINS CEASING AFTER TWENTY-SECOND DAY.

|       |   |    |     |    |    |       |   |    |    |    |    |
|-------|---|----|-----|----|----|-------|---|----|----|----|----|
| A. S. | M | 21 | 54  | 4  | 51 | G. D. | M | 19 | 52 | 3  | 25 |
| H. W. | M | 21 | 41  | 14 | 28 | P. L. | M | 11 | 35 | 7  | 32 |
| R. S. | M | 31 | 62  | 14 | 44 | C. F. | M | 29 | 45 | 7  | 27 |
| J. H. | M | 20 | 58  | 21 | 23 | F. H. | M | 16 | 84 | 11 | 46 |
| T. L. | M | 13 | 85  | ?  | 44 | W. O. | M | 28 | 66 | 7  | 25 |
| T. S. | M | 31 | 35  | 28 | 26 | C. H. | M | 32 | 50 | 12 | 39 |
| E. S. | M | 21 | 43  | 14 | 30 | R. L. | M | 24 | 68 | 8  | 32 |
| W. B. | M | 23 | 55  | 28 | 47 | G. M. | M | 21 | 47 | 4  | 42 |
| J. D. | M | 30 | 37  | 5  | 24 | A. W. | M | 18 | 56 | 5  | 45 |
| J. E. | M | 22 | 47  | 11 | 29 | E. L. | M | 19 | 37 | 5  | 31 |
| W. E. | M | 29 | 56  | ?  | 48 | W. N. | M | 26 | 33 | 14 | 26 |
| S. K. | M | 27 | 70  | 6  | 52 | N. S. | M | 19 | 51 | 5  | 29 |
| R. W. | M | 24 | 70  | 3  | 51 | H. D. | M | 14 | 62 | 56 | 33 |
| R. W. | M | 16 | 52  | 7  | 35 | J. H. | M | 20 | 48 | 3  | 41 |
| J. P. | M | 22 | 35  | 2  | 23 | E. A. | M | 17 | 92 | 4  | 39 |
| G. G. | M | 19 | 81  | 4  | 62 | J. K. | M | 18 | 45 | 4  | 26 |
| W. N. | M | 24 | 52  | 8  | 26 | W. B. | M | 16 | 54 | 7  | 37 |
| S. K. | M | 34 | 49  | 14 | 31 | R. F. | M | 27 | 57 | 7  | 29 |
| A. M. | M | 21 | 61  | 7  | 39 | R. B. | M | 21 | 36 | ?  | 23 |
| T. S. | M | 22 | 41  | 4  | 28 | C. N. | M | 21 | 44 | 17 | 28 |
| T. W. | M | 32 | 49  | 49 | 24 | W. M. | M | 23 | 47 | 7  | 28 |
| C. B. | M | 29 | 38  | 90 | 34 | J. H. | M | 27 | 42 | 4  | 34 |
| J. H. | M | 28 | 55  | 4  | 45 | C. W. | M | 18 | 36 | 5  | 40 |
| G. H. | M | 24 | 27  | 7  | 26 | J. S. | M | 29 | 32 | 7  | 23 |
| T. W. | M | 19 | 41  | 3  | 30 | J. B. | M | 27 | 44 | 10 | 26 |
| T. B. | M | 26 | 62  | 7  | 30 | J. M. | M | 23 | 62 | 3  | 52 |
| M. B. | F | 30 | 56  | 28 | 30 | E. B. | M | 16 | 41 | 14 | 37 |
| S. W. | F | 34 | 64  | 8  | 24 | S. M. | M | 16 | 31 | 14 | 27 |
| M. D. | F | 33 | 53  | 3  | 48 | J. F. | M | 29 | 75 | 3  | 29 |
| C. D. | F | 21 | 55  | 10 | 36 | W. H. | M | 19 | 43 | 14 | 24 |
| L. J. | F | 23 | 67  | 6  | 44 | N. B. | M | 12 | 81 | ?  | 37 |
| S. L. | F | 22 | 140 | 14 | 33 | C. G. | M | 18 | 63 | 21 | 57 |

PAINS CEASING AFTER TWENTY-SECOND DAY—*cont.*

| <i>Without complications.</i> |      |      |                         |                                   |                        | <i>With complications.</i> |      |      |                         |                                   |                        |
|-------------------------------|------|------|-------------------------|-----------------------------------|------------------------|----------------------------|------|------|-------------------------|-----------------------------------|------------------------|
| Name.                         | Sex. | Age. | Dura-<br>tion,<br>days. | Ill before<br>admission,<br>days. | Day<br>pain<br>ceased. | Name.                      | Sex. | Age. | Dura-<br>tion,<br>days. | Ill before<br>admission,<br>days. | Day<br>pain<br>ceased. |
| S. H.                         | F    | 12   | 64                      | 14                                | 42                     | J. K.                      | M    | 21   | 45                      | 32                                | 26                     |
| S. B.                         | F    | 18   | 44                      | 21                                | 40                     | B. N.                      | M    | 22   | 48                      | 5                                 | 23                     |
| E. G.                         | F    | 24   | 59                      | 2                                 | 42                     | T. R.                      | M    | 26   | 72                      | 4                                 | 27                     |
| C. B.                         | F    | 18   | 79                      | 21                                | 39                     | R. W.                      | M    | 19   | 54                      | 42                                | 39                     |
| E. F.                         | F    | 7    | 49                      | 12                                | 24                     | J. G.                      | M    | 23   | 42                      | 28                                | 23                     |
| E. C.                         | F    | 24   | 57                      | 14                                | 34                     | C. H.                      | M    | 20   | 41                      | 14                                | 35                     |
| M. K.                         | F    | 16   | 73                      | 4                                 | 49                     | W. S.                      | M    | 20   | 73                      | 13                                | 57                     |
| A. B.                         | F    | 25   | 41                      | 13                                | 24                     | H. B.                      | M    | 17   | 46                      | 4                                 | 35                     |
| A. B.                         | F    | 33   | 61                      | 14                                | 25                     | G. S.                      | M    | 13   | 50                      | 7                                 | 25                     |
| H. S.                         | F    | 16   | 81                      | 21                                | 25                     | H. P.                      | M    | 23   | 45                      | 7                                 | 25                     |
| J. C.                         | F    | 28   | 88                      | 14                                | 45                     | A. B.                      | F    | 30   | 65                      | 7                                 | 29                     |
| S. A.                         | F    | 20   | 50                      | 3                                 | 30                     | R. K.                      | F    | 21   | 29                      | 6                                 | 23                     |
| C. T.                         | F    | 19   | 51                      | 21                                | 23                     | E. L.                      | F    | 23   | 57                      | 8                                 | 29                     |
| A. W.                         | F    | 27   | 41                      | 14                                | 35                     | J. B.                      | F    | 25   | 120                     | 14                                | 63                     |
| S. S.                         | F    | 21   | 76                      | 20                                | 32                     | A. S.                      | F    | 26   | 55                      | 7                                 | 26                     |
| C. S.                         | F    | 24   | 41                      | 14                                | 39                     | A. S.                      | F    | 24   | 51                      | 10                                | 25                     |
| L. W.                         | F    | 32   | 44                      | 13                                | 28                     | L. F.                      | F    | 23   | 31                      | 5                                 | 24                     |
|                               |      |      |                         |                                   |                        | J. R.                      | F    | 27   | 44                      | 4                                 | 30                     |
|                               |      |      |                         |                                   |                        | C. B.                      | F    | 12   | 46                      | 4                                 | 25                     |
|                               |      |      |                         |                                   |                        | C. L.                      | F    | 17   | 36                      | 3                                 | 23                     |
|                               |      |      |                         |                                   |                        | H. H.                      | F    | 18   | 52                      | 5                                 | 23                     |
|                               |      |      |                         |                                   |                        | E. S.                      | F    | 27   | 34                      | 7                                 | 25                     |
|                               |      |      |                         |                                   |                        | E. B.                      | F    | 18   | 64                      | 10                                | 30                     |
|                               |      |      |                         |                                   |                        | S. C.                      | F    | 21   | 101                     | 4                                 | 38                     |
|                               |      |      |                         |                                   |                        | H. F.                      | F    | 26   | 56                      | 10                                | 33                     |
|                               |      |      |                         |                                   |                        | S. D.                      | F    | 19   | 54                      | 11                                | 35                     |
|                               |      |      |                         |                                   |                        | J. M.                      | F    | 19   | 61                      | 7                                 | 51                     |
|                               |      |      |                         |                                   |                        | S. K.                      | F    | 17   | 54                      | ?                                 | 27                     |
|                               |      |      |                         |                                   |                        | E. F.                      | F    | 25   | 43                      | 28                                | 24                     |
|                               |      |      |                         |                                   |                        | E. W.                      | F    | 15   | 55                      | 5                                 | 25                     |
|                               |      |      |                         |                                   |                        | J. P.                      | F    | 20   | 45                      | 70                                | 26                     |
|                               |      |      |                         |                                   |                        | E. C.                      | F    | 21   | 36                      | 29                                | 26                     |
|                               |      |      |                         |                                   |                        | E. D.                      | F    | 26   | 51                      | 4                                 | 24                     |
|                               |      |      |                         |                                   |                        | M. F.                      | F    | 18   | 65                      | 8                                 | 31                     |
|                               |      |      |                         |                                   |                        | E. N.                      | F    | 20   | 72                      | 21                                | 33                     |
|                               |      |      |                         |                                   |                        | A. B.                      | F    | 16   | 47                      | 3                                 | 28                     |
|                               |      |      |                         |                                   |                        | A. S.                      | F    | 16   | 42                      | 21                                | 25                     |
|                               |      |      |                         |                                   |                        | M. S.                      | F    | 21   | 65                      | 21                                | 44                     |
|                               |      |      |                         |                                   |                        | E. L.                      | F    | 21   | 86                      | 8                                 | 23                     |

## PATIENTS TREATED WITH SALICYLATES.

## PAINS CEASING ON FIRST DAY.

*Without complications.**With complications.*

| Name.  | Sex. | Age. | Duration,<br>days. | Ill before<br>admission,<br>days. | Name.    | Sex. | Age. | Duration,<br>days. | Ill before<br>admission,<br>days. |
|--------|------|------|--------------------|-----------------------------------|----------|------|------|--------------------|-----------------------------------|
| C. F.  | F    | 18   | 26                 | 6                                 | E. P.    | F    | 34   | 24                 | 14                                |
| R. F.  | F    | 14   | 34                 | 35                                | C. W.    | F    | 19   | 27                 | 9                                 |
| J. C.  | F    | 17   | 26                 | 6                                 | H. B.    | F    | 25   | 24                 | 21                                |
| E. G.  | F    | 25   | 18                 | 10                                | E. W.    | F    | 11   | 33                 | ?                                 |
| C. H.  | F    | 27   | 12                 | 6                                 | A. W.    | F    | 8    | 15                 | ?                                 |
| E. P.  | F    | 6    | 10                 | 5                                 | J. R. S. | F    | 6    | 42                 | 6                                 |
| H. R.  | F    | 31   | 20                 | 5                                 | L. K.    | F    | 28   | 31                 | 21                                |
| M. O.  | F    | 14   | 20                 | 14                                | C. N.    | F    | 14   | 17                 | 4                                 |
| E. H.  | F    | 19   | 16                 | ?                                 | M. S.    | F    | 15   | 29                 | 2                                 |
| J. L.  | F    | 15   | 31                 | 7                                 | E. C.    | F    | 27   | 22                 | 10                                |
| C. V.  | F    | 20   | 32                 | 10                                | B. W.    | F    | 20   | 104                | 7                                 |
| W. J.  | M    | 24   | 29                 | 7                                 | W. A.    | M    | 30   | 18                 | 8                                 |
| W. M.  | M    | 33   | 17                 | 6                                 | E. S.    | M    | 19   | 15                 | 21                                |
| H. P.  | M    | 18   | 17                 | 3                                 | E. W.    | M    | 35   | 37                 | 7                                 |
| J. J.  | M    | 21   | 10                 | 7                                 | M. F.    | M    | 19   | 67                 | 14                                |
| H. C.  | M    | 33   | 106                | 10                                | P. M.    | M    | 24   | 27                 | 12                                |
| E. H.  | M    | 34   | 18                 | 16                                | H. A.    | M    | 18   | 13                 | 8                                 |
| T. S.  | M    | 22   | 12                 | 4                                 | J. B.    | M    | 28   | 17                 | 4                                 |
| G. P.  | M    | 15   | 49                 | 4                                 | J. T.    | M    | 23   | 19                 | 21                                |
| A. A.  | M    | 30   | 12                 | 4                                 | P. S.    | F    | 33   | 31                 | 4                                 |
| W.H.C. | M    | 14   | 10                 | ?                                 | C. W.    | F    | 15   | 44                 | 42                                |
| J. M.  | M    | 19   | 44                 | 2                                 | M. C.    | F    | 23   | 49                 | 14                                |
| J. S.  | M    | 28   | 27                 | 12                                | A. S.    | F    | 11   | 16                 | ?                                 |
| A. G.  | M    | 13   | 21                 | 7                                 | C. S.    | F    | 20   | 25                 | 7                                 |
| J. M.  | M    | 19   | 42                 | 3                                 | M. S.    | F    | 10   | 27                 | 15                                |
| S. T.  | M    | 15   | 20                 | 4                                 | R. C.    | M    | 16   | 60                 | 4                                 |
| E. C.  | M    | 10   | 37                 | 14                                | L. B.    | M    | 24   | 31                 | 5                                 |
| J. P.  | M    | 28   | 53                 | 21                                | A. E.    | M    | 14   | 10                 | 3                                 |
| A. K.  | M    | 25   | 45                 | 3                                 | W. L.    | M    | 19   | 31                 | 6                                 |
| G. C.  | M    | 22   | 29                 | 5                                 | D. E.    | M    | 15   | 37                 | 10                                |
| J. A.  | M    | 30   | 44                 | 4                                 | H. P.    | M    | 18   | 19                 | 7                                 |
| J. K.  | M    | 12   | 51                 | 4                                 | C. P.    | M    | 31   | 40                 | 4                                 |
| R. W.  | M    | 31   | 25                 | 28                                | M. R.    | M    | 32   | 28                 | 5                                 |
| C. S.  | M    | 22   | 29                 | 5                                 | J. W.    | M    | 27   | 21                 | 14                                |
| R. T.  | M    | 14   | 18                 | 14                                | C. B.    | M    | 16   | 51                 | 5                                 |
| M. H.  | M    | 21   | 26                 | 7                                 | J. D.    | M    | 22   | 23                 | 14                                |
| F. C.  | M    | 21   | 25                 | 3                                 |          |      |      |                    |                                   |
| J. E.  | M    | 8    | 18                 | 4                                 |          |      |      |                    |                                   |
| M. D.  | F    | 14   | 23                 | 5                                 |          |      |      |                    |                                   |

## PAINS CEASING ON SECOND DAY.

|       |   |    |    |   |       |   |    |    |    |
|-------|---|----|----|---|-------|---|----|----|----|
| E. R. | F | 16 | 35 | 4 | S. G. | F | 27 | 34 | 21 |
| M. L. | F | 28 | 26 | 8 | E. R. | F | 12 | 29 | 28 |
| E. B. | F | 14 | 21 | 4 | M. R. | F | 29 | 49 | 56 |
| L. W. | F | 30 | 28 | ? | A. E. | F | ?  | 29 | 8  |
| E. S. | F | 20 | 49 | 4 | G. S. | M | 14 | 13 | 28 |
| T. W. | F | 20 | 31 | 7 | G. T. | M | 16 | 29 | 7  |
| S. B. | F | 27 | 16 | 5 | G. S. | M | 24 | 23 | 2  |

PAINS CEASING ON SECOND DAY—*cont.*

| <i>Without complications.</i> |      |      |                    |                                   | <i>With complications.</i> |      |      |                    |                                   |
|-------------------------------|------|------|--------------------|-----------------------------------|----------------------------|------|------|--------------------|-----------------------------------|
| Name.                         | Sex. | Age. | Duration,<br>days. | Ill before<br>admission,<br>days. | Name.                      | Sex. | Age. | Duration,<br>days. | Ill before<br>admission,<br>days. |
| M. M.                         | F    | 18   | 35                 | 4                                 | E. L.                      | M    | 12   | 21                 | 3                                 |
| K. W.                         | F    | 20   | 21                 | 14                                | H. P.                      | M    | 19   | 29                 | 5                                 |
| L. B.                         | F    | 12   | 18                 | 4                                 | E. H.                      | M    | 28   | 23                 | 21                                |
| R. W.                         | F    | 16   | 18                 | 5                                 | C. W.                      | M    | 14   | 49                 | 3                                 |
| C. H.                         | F    | 30   | 13                 | 14                                | R. R.                      | M    | 23   | 25                 | 4                                 |
| L. M.                         | F    | 17   | 22                 | 4                                 | F. B.                      | M    | 14   | 53                 | 7                                 |
| L. D.                         | F    | 16   | 12                 | 3                                 | H. F.                      | M    | 15   | 30                 | 3                                 |
| A. S.                         | F    | 17   | 21                 | 28                                | A. B.                      | M    | 19   | 19                 | 3                                 |
| C. O.                         | F    | 15   | 52                 | 4                                 | J. S.                      | M    | 17   | 43                 | 14                                |
| C. B.                         | F    | 19   | 21                 | 5                                 | E. C.                      | M    | 17   | 21                 | 14                                |
| C. M.                         | F    | 13   | 21                 | 2                                 | G. M.                      | M    | 29   | 12                 | 5                                 |
| M. C.                         | F    | 32   | 15                 | 4                                 | H. H.                      | M    | 16   | 53                 | 3                                 |
| S. P.                         | F    | 25   | 9                  | 28                                | E. C.                      | M    | 16   | 42                 | 4                                 |
| H. A.                         | F    | 22   | 44                 | 7                                 | R. P.                      | M    | 20   | 20                 | 14                                |
| C. C.                         | F    | 22   | 14                 | 7                                 | A. C.                      | M    | 27   | 23                 | 10                                |
| C. D.                         | F    | 24   | 31                 | 6                                 | C. G.                      | M    | 13   | 22                 | 2                                 |
| M. T.                         | F    | 26   | 36                 | 2                                 | J. W.                      | M    | 15   | 43                 | 6                                 |
| S. V.                         | F    | 25   | 13                 | 28                                | C. P.                      | M    | 22   | 13                 | 16                                |
| C. B.                         | F    | 13   | 29                 | 5                                 | C. C.                      | M    | 15   | 48                 | 3                                 |
| E. S.                         | F    | 27   | 34                 | 2                                 | W. F.                      | M    | 28   | 22                 | 5                                 |
| E. P.                         | F    | 28   | 22                 | 3                                 | A. K.                      | M    | 13   | 11                 | 4                                 |
| E. H.                         | F    | 32   | 7                  | 3                                 | J. W.                      | M    | 29   | 12                 | 28                                |
| J. E.                         | F    | 21   | 64                 | 8                                 | H. B.                      | M    | 18   | 11                 | 3                                 |
| E. G.                         | F    | 34   | 15                 | 14                                | T. B.                      | M    | 28   | 42                 | 14                                |
| E. L.                         | F    | 19   | 18                 | 21                                | J. W.                      | M    | 22   | 30                 | 1                                 |
| M. L.                         | F    | 21   | 29                 | 6                                 | E. H.                      | M    | 10   | 24                 | ?                                 |
| E. C.                         | F    | 15   | 52                 | 28                                | P. F.                      | M    | 16   | 28                 | 4                                 |
| A. B.                         | F    | 16   | 38                 | 35                                | J. C.                      | M    | 23   | 23                 | 6                                 |
| C. C.                         | F    | 19   | 11                 | 7                                 | A. A.                      | M    | 14   | 21                 | 8                                 |
| M. D.                         | F    | 28   | 24                 | 12                                | C. P.                      | M    | 10   | 14                 | 1                                 |
| A. K.                         | F    | 28   | 45                 | 11                                | M. M.                      | M    | 23   | 20                 | 6                                 |
| R. M.                         | F    | 18   | 27                 | 5                                 | M. H.                      | F    | 18   | 23                 | 3                                 |
| E. C.                         | F    | 22   | 20                 | 8                                 | M. C.                      | F    | 19   | 47                 | 14                                |
| C. C.                         | F    | 34   | 40                 | ?                                 | C. C.                      | F    | 32   | 24                 | 8                                 |
| M. R.                         | F    | 25   | 27                 | 21                                | S. S.                      | F    | 10   | 18                 | 7                                 |
| E. D.                         | F    | 22   | 35                 | 4                                 | L. T.                      | F    | 24   | 50                 | 6                                 |
| C. S.                         | F    | 31   | 31                 | 14                                | L. R.                      | F    | 34   | 39                 | ?                                 |
| K. S.                         | F    | 23   | 32                 | 21                                | L. B.                      | F    | 33   | 43                 | 10                                |
| K. L.                         | F    | 23   | 54                 | ?                                 | A. O.                      | F    | 24   | 32                 | 4                                 |
| L. B.                         | F    | 21   | 23                 | 6                                 | C. H.                      | F    | 12   | 15                 | 2                                 |
| A. C.                         | F    | 13   | 34                 | 4                                 | A. S.                      | F    | 20   | 29                 | 14                                |
| A. C.                         | F    | 15   | 32                 | 4                                 | A. S.                      | F    | 12   | 18                 | 6                                 |
| H. H.                         | M    | 16   | 46                 | 7                                 | M. B.                      | F    | 24   | 16                 | 5                                 |
| J. L.                         | M    | 25   | 27                 | 5                                 | E. F.                      | F    | 24   | 27                 | 7                                 |
| R. S.                         | M    | 19   | 15                 | 7                                 | S. G.                      | F    | 25   | 42                 | 14                                |
| J. B.                         | M    | 18   | 15                 | 14                                | E. D.                      | F    | 16   | 26                 | 2                                 |
| T. M.                         | M    | 17   | 17                 | 7                                 | A. B.                      | F    | 11   | 14                 | 5                                 |
| R. M.                         | M    | 28   | 49                 | 1                                 | E. R.                      | F    | 25   | 54                 | ?                                 |
| T. O.                         | M    | 19   | 19                 | 6                                 | S. S.                      | F    | 17   | 19                 | 4                                 |
| C. B.                         | M    | 22   | 11                 | 4                                 | R. W.                      | F    | 16   | 50                 | ?                                 |
| J. S.                         | M    | 35   | 26                 | 14                                | E. S.                      | F    | 14   | 14                 | 4                                 |
| J. H.                         | M    | 22   | 21                 | 4                                 | L. A.                      | F    | 18   | 47                 | 7                                 |

PAINS CEASING ON SECOND DAY—*cont.**Without complications.**With complications.*

| Name. | Sex. | Age. | Duration,<br>days. | Ill before<br>admission,<br>days. | Name. | Sex. | Age. | Duration,<br>days. | Ill before<br>admission,<br>days. |
|-------|------|------|--------------------|-----------------------------------|-------|------|------|--------------------|-----------------------------------|
| T. H. | M    | 22   | 32                 | 10                                | D. P. | F    | 19   | 70                 | 28                                |
| A. C. | M    | 18   | 32                 | 4                                 | J. E. | F    | 20   | 23                 | 6                                 |
| W. H. | M    | 21   | 23                 | ?                                 | K. E. | F    | 26   | 29                 | 2                                 |
| C. C. | M    | 19   | 29                 | 3                                 | C. H. | F    | 30   | 26                 | 7                                 |
| J. B. | M    | 32   | 23                 | 14                                | M. A. | F    | 20   | 27                 | 10                                |
| A. W. | M    | 15   | 13                 | 11                                | M. H. | F    | 19   | 9                  | 14                                |
| C. C. | M    | 32   | 23                 | 3                                 | A. B. | F    | 23   | 20                 | 5                                 |
| R. C. | M    | 16   | 10                 | 3                                 | M. H. | F    | 15   | 44                 | 4                                 |
| D. B. | M    | 25   | 54                 | 3                                 | J. M. | F    | 20   | 28                 | 3                                 |
| J. P. | M    | 15   | 16                 | 1                                 | M. C. | F    | 14   | 14                 | 21                                |
| C. D. | M    | 15   | 12                 | 4                                 | E. B. | F    | 16   | 26                 | ?                                 |
| E. H. | M    | 14   | 13                 | 3                                 | E. C. | F    | 18   | 25                 | 4                                 |
| D. H. | M    | 27   | 23                 | 6                                 | F. O. | F    | 18   | 36                 | 14                                |
| J. T. | M    | 14   | 37                 | 9                                 | E. B. | F    | 14   | 50                 | 5                                 |
| W. F. | M    | 29   | 39                 | 20                                | R. F. | M    | 14   | 36                 | 6                                 |
| A. B. | M    | 13   | 44                 | 2                                 | C. G. | M    | 12   | 28                 | 6                                 |
| C. C. | M    | 16   | 27                 | 21                                | T. E. | M    | 15   | 10                 | 10                                |
| W. B. | M    | 20   | 23                 | 21                                | J. A. | M    | 30   | 37                 | 14                                |
| J. T. | M    | 21   | 26                 | 14                                | S. S. | M    | 17   | 39                 | 4                                 |
| J. M. | M    | 22   | 23                 | 7                                 | W. C. | M    | 9    | 20                 | 2                                 |
| A. V. | M    | 21   | 5                  | 3                                 | A. M. | M    | 15   | 25                 | 6                                 |
| W. P. | M    | 19   | 52                 | 2                                 | T. A. | M    | 25   | 20                 | 4                                 |
| J. F. | M    | 20   | 39                 | 5                                 | J. J. | M    | 26   | 37                 | 5                                 |
| A. C. | M    | 34   | 10                 | ?                                 | J. B. | M    | 13   | 50                 | 21                                |
| F. D. | M    | 27   | 31                 | 11                                | W. J. | M    | 21   | 29                 | 7                                 |
| J. F. | M    | 26   | 20                 | 16                                | G. M. | M    | 18   | 19                 | 14                                |
| W. B. | M    | 21   | 21                 | 5                                 | J. G. | M    | 8    | 26                 | 2                                 |
| R. K. | M    | 15   | 51                 | 5                                 | W. J. | M    | 16   | 84                 | 10                                |
| W. D. | M    | 29   | 23                 | 5                                 | E. M. | M    | 20   | 17                 | 5                                 |
| C. L. | M    | 25   | 65                 | 7                                 | G. B. | M    | 5    | 23                 | 5                                 |
| F. B. | M    | 22   | 22                 | 14                                | E. J. | M    | 18   | 36                 | 4                                 |
| W. B. | M    | 15   | 43                 | 6                                 | B. B. | M    | 16   | 47                 | 5                                 |
| G. M. | M    | 22   | 29                 | 4                                 | W. W. | M    | 29   | 18                 | 21                                |
| E. H. | M    | 11   | 12                 | 4                                 | J. E. | M    | 14   | 18                 | 4                                 |
| G. G. | M    | 20   | 20                 | 90                                | W. W. | M    | 29   | 18                 | 21                                |
| J. S. | M    | 22   | 68                 | 6                                 | C. J. | M    | 26   | 52                 | 5                                 |
| J. H. | M    | ?    | 21                 | 4                                 |       |      |      |                    |                                   |
| H. H. | M    | 27   | 19                 | 14                                |       |      |      |                    |                                   |
| H. B. | M    | 19   | 21                 | 10                                |       |      |      |                    |                                   |
| B. C. | M    | 20   | 37                 | 5                                 |       |      |      |                    |                                   |
| J. B. | M    | 23   | 33                 | 8                                 |       |      |      |                    |                                   |
| H. R. | M    | 24   | 33                 | 8                                 |       |      |      |                    |                                   |
| G. G. | M    | 20   | 41                 | 5                                 |       |      |      |                    |                                   |
| E. L. | M    | 19   | 27                 | 12                                |       |      |      |                    |                                   |
| L. N. | M    | 25   | 25                 | 7                                 |       |      |      |                    |                                   |
| E. S. | M    | 19   | 19                 | 5                                 |       |      |      |                    |                                   |
| J. B. | M    | 33   | 41                 | 7                                 |       |      |      |                    |                                   |
| A. R. | M    | 26   | 23                 | 6                                 |       |      |      |                    |                                   |
| W. T. | M    | 28   | 26                 | 8                                 |       |      |      |                    |                                   |
| F. N. | M    | 28   | 15                 | 2                                 |       |      |      |                    |                                   |
| J. C. | M    | 14   | 42                 | 3                                 |       |      |      |                    |                                   |
| J. R. | M    | 16   | 19                 | 7                                 |       |      |      |                    |                                   |

PAINS CEASING ON SECOND DAY—*cont.**Without complications.*

| Name. | Sex. | Age. | Duration,<br>days. | Ill before<br>admission,<br>days. |
|-------|------|------|--------------------|-----------------------------------|
| U. B. | M    | 30   | 17                 | 5                                 |
| J. H. | M    | 34   | 36                 | 7                                 |
| H. W. | M    | 32   | 28                 | 9                                 |
| R. S. | M    | 31   | 15                 | 3                                 |
| C. K. | M    | 5    | 21                 | 6                                 |

*With complications.*

| Name. | Sex. | Age. | Duration,<br>days. | Ill before<br>admission,<br>days. |
|-------|------|------|--------------------|-----------------------------------|
|-------|------|------|--------------------|-----------------------------------|

## PAINS CEASING ON THIRD DAY.

|       |   |    |    |    |       |   |    |    |    |
|-------|---|----|----|----|-------|---|----|----|----|
| W. H. | M | 22 | 24 | 3  | M. B. | F | 19 | 38 | 14 |
| W. W. | M | 15 | 42 | 17 | J. S. | F | 12 | 33 | 28 |
| M. H. | M | 22 | 25 | 7  | A. H. | F | 11 | 54 | 6  |
| J. A. | M | 23 | 59 | 4  | A. J. | F | 33 | 26 | 10 |
| R. C. | M | 25 | 34 | 6  | C. C. | F | 31 | 11 | 8  |
| B. R. | M | 34 | 40 | 10 | C. P. | F | 15 | 32 | 14 |
| J. J. | M | 21 | 17 | 21 | L. B. | F | 19 | 67 | 14 |
| H. S. | M | 18 | 8  | 2  | C. W. | F | 15 | 47 | 49 |
| J. C. | M | 20 | 15 | 7  | M. D. | F | 23 | 22 | 3  |
| J. P. | M | 13 | 35 | 4  | A. S. | F | 8  | 57 | 6  |
| G. M. | M | 25 | 41 | 7  | C. S. | F | 15 | 15 | 4  |
| H. C. | M | 22 | 40 | 3  | E. C. | F | 20 | 41 | 7  |
| W. R. | M | 34 | 18 | 21 | M. B. | F | 19 | 28 | 4  |
| H. N. | M | 22 | 25 | 14 | C. M. | F | 17 | 37 | 7  |
| J. R. | M | 27 | 21 | 35 | A. C. | F | 14 | 49 | 9  |
| F. B. | M | 24 | 21 | 5  | E. C. | F | 21 | 45 | 5  |
| A. S. | M | 15 | 37 | 6  | M. B. | F | 24 | 24 | 3  |
| E. W. | M | 14 | 82 | 2  | S. A. | F | 18 | 15 | 21 |
| W. B. | M | 9  | 21 | 1  | M. H. | F | 20 | 57 | 3  |
| A. O. | M | 11 | 23 | ?  | E. W. | F | 17 | 21 | 4  |
| J. P. | F | 17 | 27 | 4  | S. A. | F | 17 | 48 | 3  |
| E. C. | F | 21 | 26 | 14 | H. N. | F | 32 | 34 | 14 |
| C. A. | F | 32 | 33 | 9  | S. P. | F | 24 | 36 | 56 |
| H. C. | F | 29 | 10 | 14 | G. K. | F | 26 | 16 | 10 |
| B. A. | F | 32 | 20 | 6  | E. F. | F | 26 | 15 | 10 |
| M. D. | F | 21 | 33 | 3  | E. P. | F | 34 | 14 | 4  |
| E. D. | F | 17 | 25 | 28 | L. B. | F | 17 | 34 | 5  |
| M. L. | F | 16 | 14 | ?  | M. H. | F | 21 | 26 | 10 |
| W. L. | F | 23 | 49 | 8  | E. B. | F | 17 | 39 | 14 |
| B. J. | F | 22 | 24 | 4  | A. J. | F | 11 | 17 | 2  |
| S. W. | F | 24 | 23 | 4  | L. T. | F | 16 | 52 | 7  |
| M. P. | F | 35 | 73 | 21 | H. P. | F | 23 | 41 | 21 |
| L. W. | F | 21 | 26 | 11 | M. L. | F | 18 | 28 | 4  |
| B. J. | F | 29 | 44 | 14 | E. M. | F | 25 | 19 | 21 |
| L. B. | F | 28 | 26 | 2  | M. V. | F | 28 | 29 | 21 |
| C. B. | F | 21 | 23 | 2  | H. P. | F | 30 | 29 | 20 |
| F. D. | F | 17 | 14 | 3  | L. W. | F | 14 | 22 | 4  |
| A. R. | F | 19 | 12 | 5  | W. W. | F | 29 | 18 | 21 |
| H. P. | F | 20 | 17 | 4  | E. S. | M | 15 | 22 | 30 |
| E. F. | F | 28 | 24 | 21 | N. M. | M | 37 | 81 | 6  |
| E. H. | F | 14 | 23 | 4  | H. R. | M | 17 | 12 | 5  |
| E. J. | F | 32 | 25 | 7  | L. W. | M | 18 | 18 | 28 |
| J. K. | F | 18 | 23 | 2  | J. M. | M | 16 | 39 | 2  |
| S. T. | F | 19 | 40 | 2  | S. R. | M | 21 | 17 | 7  |

## ON THE TREATMENT OF

PAINS CEASING ON THIRD DAY—*cont.**Without complications.*

| Name. | Sex. | Age. | Duration,<br>days. | Ill before<br>admission,<br>days. |
|-------|------|------|--------------------|-----------------------------------|
| M. W. | F    | 23   | 26                 | 3                                 |
| A. H. | F    | 14   | 25                 | 6                                 |
| J. C. | F    | 14   | 40                 | 4                                 |
| A. P. | F    | 24   | 6                  | 12                                |
| H. C. | F    | 29   | 10                 | 14                                |
| D. C. | M    | 19   | 16                 | 10                                |
| A. G. | M    | 22   | 13                 | 12                                |
| C. C. | M    | 15   | 82                 | 3                                 |
| A. C. | M    | 26   | 21                 | 8                                 |

*With complications.*

| Name. | Sex. | Age. | Duration,<br>days. | Ill before<br>admission,<br>days. |
|-------|------|------|--------------------|-----------------------------------|
| J. S. | M    | 22   | 23                 | 7                                 |
| J. B. | M    | 19   | 28                 | 3                                 |
| H. T. | M    | 22   | 29                 | 1                                 |
| S. C. | M    | 14   | 18                 | 4                                 |
| T. W. | M    | 27   | 49                 | 4                                 |
| T. H. | M    | 23   | 62                 | 7                                 |
| C. B. | M    | 27   | 29                 | 14                                |
| E. M. | M    | 23   | 21                 | 9                                 |
| J. O. | M    | 6    | 23                 | 4                                 |
| R. C. | M    | 12   | 33                 | 4                                 |
| F. H. | M    | 25   | 36                 | 14                                |
| A. M. | M    | 15   | 25                 | 1                                 |
| W. R. | M    | 15   | 23                 | 2                                 |
| N. M. | M    | 32   | 21                 | 4                                 |
| J. B. | M    | 20   | 22                 | 6                                 |
| W. F. | M    | 34   | 48                 | 7                                 |
| W. C. | M    | 34   | 16                 | 5                                 |
| H. C. | M    | 20   | 51                 | ?                                 |
| F. H. | M    | 14   | 34                 | 14                                |
| J. S. | M    | 19   | 8                  | 13                                |
| M. H. | M    | 29   | 20                 | 5                                 |
| J. R. | M    | 31   | 25                 | 7                                 |
| W. B. | M    | 23   | 33                 | 6                                 |
| F. R. | M    | 24   | 27                 | 11                                |
| J. A. | M    | 18   | 38                 | 7                                 |
| J. S. | M    | 22   | 29                 | 13                                |
| G. L. | M    | 15   | 33                 | 21                                |
| R. T. | M    | 13   | 28                 | 4                                 |
| J. A. | M    | 33   | 27                 | 7                                 |
| E. H. | M    | 17   | 23                 | 4                                 |
| D. D. | M    | 11   | 34                 | 3                                 |
| E. D. | M    | 7    | 52                 | ?                                 |
| J. K. | M    | 18   | 33                 | 6                                 |
| W. C. | M    | 19   | 39                 | 6                                 |
| R. D. | M    | 23   | 22                 | 5                                 |
| H. C. | M    | 22   | 43                 | 14                                |
| E. W. | F    | 19   | 28                 | 4                                 |
| H. L. | F    | 14   | 76                 | 5                                 |

## PAINS CEASING ON FOURTH DAY.

|       |   |    |    |    |       |   |    |    |    |
|-------|---|----|----|----|-------|---|----|----|----|
| W. B. | M | 34 | 30 | 8  | W. A. | M | 23 | 62 | 14 |
| W. R. | M | 17 | 33 | 2  | H. S. | M | 31 | 65 | 1  |
| J. R. | M | 31 | 21 | ?  | R. J. | M | 22 | 34 | 5  |
| E. H. | M | 22 | 16 | 6  | D. B. | M | 17 | 20 | 6  |
| E. C. | M | 20 | 56 | 3  | A. M. | M | 15 | 24 | 5  |
| W. P. | M | 19 | 20 | ?  | F. L. | M | 20 | 21 | 4  |
| H. M. | M | 27 | 27 | 20 | E. L. | M | 23 | 59 | 7  |
| E. S. | M | 27 | 20 | 14 | E. S. | M | 27 | 20 | 14 |
| R. L. | M | 25 | 47 | 6  | W. A. | M | 18 | 36 | 4  |
| A. D. | M | 28 | 46 | 21 | J. J. | M | 21 | 68 | 4  |
| H. W. | M | 6  | 32 | 1  | E. W. | M | 22 | 17 | 2  |

PAINS CEASING ON FOURTH DAY—*cont.**Without complications.*

| Name. | Sex. | Age. | Duration,<br>days. | Ill before<br>admission,<br>days. |
|-------|------|------|--------------------|-----------------------------------|
| J. C. | M    | 19   | 56                 | 28                                |
| P. N. | M    | 25   | 44                 | 9                                 |
| A. B. | M    | 19   | 46                 | 4                                 |
| F. P. | F    | 19   | 44                 | 6                                 |
| J. P. | F    | 24   | 23                 | 36                                |
| M. K. | F    | 30   | 33                 | 10                                |
| E. M. | F    | 24   | 23                 | 28                                |
| F. F. | F    | 16   | 23                 | 3                                 |
| J. J. | F    | 30   | 17                 | 120                               |
| H. F. | F    | 23   | 35                 | 5                                 |
| M. H. | F    | 14   | 26                 | 3                                 |
| W. W. | F    | 35   | 79                 | 42                                |
| J. B. | F    | 30   | 23                 | 5                                 |
| F. C. | F    | 24   | 17                 | 4                                 |
| E. G. | F    | 25   | 24                 | 28                                |
| J. E. | F    | 34   | 15                 | 8                                 |
| H. C. | F    | 28   | 18                 | 7                                 |

*With complications.*

| Name. | Sex. | Age. | Duration,<br>days. | Ill before<br>admission,<br>days. |
|-------|------|------|--------------------|-----------------------------------|
| G. P. | M    | 26   | 38                 | 14                                |
| E. C. | M    | 18   | 81                 | 3                                 |
| E. H. | M    | 17   | 30                 | 2                                 |
| W. B. | M    | 11   | 30                 | 5                                 |
| E. H. | M    | 22   | 44                 | 7                                 |
| W. S. | M    | 23   | 24                 | 10                                |
| W. C. | M    | ?    | 18                 | 3                                 |
| E. B. | F    | 25   | 16                 | 21                                |
| E. C. | F    | 17   | 37                 | 4                                 |
| C. H. | F    | 18   | 98                 | 10                                |
| S. E. | F    | 30   | 46                 | 21                                |
| F. C. | F    | 19   | 33                 | 7                                 |
| A. S. | F    | 18   | 28                 | 5                                 |
| T. H. | F    | 33   | 18                 | 8                                 |
| J. J. | F    | 6    | 24                 | 6                                 |
| B. D. | F    | 20   | 21                 | 7                                 |
| E. K. | F    | 13   | 41                 | 1                                 |
| A. W. | F    | 12   | 44                 | 6                                 |
| K. F. | F    | 20   | 164                | 4                                 |
| A. S. | F    | 21   | 14                 | 15                                |
| D. M. | F    | 15   | 68                 | 4                                 |
| S. C. | F    | 19   | 24                 | 10                                |
| L. D. | F    | 21   | 25                 | 6                                 |
| J. N. | F    | 18   | 78                 | 7                                 |
| J. P. | F    | 28   | 21                 | 6                                 |
| N. M. | F    | 21   | 34                 | 4                                 |
| G. J. | F    | 30   | 50                 | 11                                |
| L. B. | F    | 13   | 39                 | 5                                 |
| J. D. | F    | 26   | 10                 | ?                                 |

## PAINS CEASING ON FIFTH OR SIXTH DAY.

|       |   |    |    |    |       |   |    |    |    |
|-------|---|----|----|----|-------|---|----|----|----|
| C. C. | F | 31 | 36 | 1  | E. S. | F | 24 | 36 | 9  |
| A. T. | F | 22 | 23 | 6  | M. C. | F | 17 | 33 | 21 |
| A. B. | F | 14 | 27 | 6  | C. S. | F | 14 | 26 | 2  |
| E. H. | F | 21 | 25 | 4  | E. A. | F | 17 | 27 | ?  |
| T. S. | F | 19 | 31 | 14 | A. S. | F | 19 | 26 | 14 |
| C. F. | F | 20 | 21 | 14 | A. R. | F | 13 | 56 | 7  |
| A. F. | F | 16 | 20 | 4  | C. N. | F | 26 | 26 | 35 |
| A. D. | F | 20 | 29 | 4  | M. E. | F | 21 | 89 | 8  |
| A. M. | F | 25 | 26 | 6  | M. H. | F | 29 | 19 | 42 |
| A. F. | F | 26 | 68 | 3  | S. S. | F | 17 | 87 | 3  |
| M. R. | F | 26 | 26 | 8  | J. H. | F | 30 | 35 | 21 |
| C. H. | F | 22 | 28 | 14 | M. S. | F | 28 | 40 | 7  |
| E. F. | F | 20 | 32 | 3  | E. W. | F | 18 | 52 | 7  |
| A. C. | F | 15 | 30 | 6  | L. B. | F | 27 | 26 | 5  |
| J. S. | F | 16 | 42 | 7  | M. H. | F | 30 | 36 | 3  |
| A. R. | F | 18 | 48 | 4  | F. B. | M | 18 | 28 | 2  |
| A. B. | F | 16 | 62 | 11 | F. P. | M | 20 | 15 | 7  |
| S. O. | F | 23 | 60 | 28 | J. A. | M | 30 | 33 | 2  |
| G. H. | M | 26 | 28 | 42 | A. H. | M | 21 | 34 | 5  |
| G. T. | M | 27 | 34 | 1  | W. C. | M | 14 | 43 | 7  |

PAINS CEASING ON FIFTH OR SIXTH DAY—*cont.**Without complications.*

| Name. | Sex. | Age. | Duration,<br>days. | Ill before<br>admission,<br>days. |
|-------|------|------|--------------------|-----------------------------------|
| H. C. | M    | 13   | 57                 | 7                                 |
| W. B. | M    | 32   | 25                 | 6                                 |
| G. R. | M    | 22   | 20                 | 8                                 |
| T. B. | M    | 32   | 26                 | 6                                 |
| J. C. | M    | 20   | 17                 | 21                                |
| W. N. | M    | 22   | 23                 | 7                                 |
| R. C. | M    | 27   | 45                 | 8                                 |
| T. D. | M    | 28   | 29                 | 14                                |
| A. P. | M    | 18   | 41                 | 7                                 |
| C. H. | M    | 19   | 53                 | 3                                 |
| M. M. | M    | 32   | 17                 | ?                                 |
| D. D. | M    | 28   | 19                 | 4                                 |
| T. B. | M    | 33   | 23                 | 14                                |
| A. P. | M    | 13   | 34                 | ?                                 |
| E. W. | M    | 23   | 28                 | 12                                |
| J. A. | M    | 31   | 21                 | 4                                 |
| A. W. | M    | 8    | 57                 | 5                                 |
| C. D. | M    | 22   | 57                 | 3                                 |
| S. C. | M    | 14   | 17                 | 6                                 |
| T. H. | M    | 13   | 18                 | 6                                 |
| E. B. | M    | 21   | 25                 | ?                                 |
| A. E. | M    | 16   | 37                 | 14                                |
| W. P. | M    | 27   | 22                 | 21                                |
| S. F. | M    | 18   | 34                 | ?                                 |

*With complications.*

| Name. | Sex. | Age. | Duration,<br>days. | Ill before<br>admission,<br>days. |
|-------|------|------|--------------------|-----------------------------------|
| J. S. | M    | 29   | 22                 | 21                                |
| A. B. | M    | 21   | 25                 | 21                                |
| J. H. | M    | 18   | 22                 | 13                                |
| C. S. | M    | 16   | 26                 | 4                                 |
| W. R. | M    | 9    | 32                 | 21                                |
| J. F. | M    | 23   | 15                 | 2                                 |
| E. W. | M    | 15   | 42                 | 22                                |
| F. W. | M    | 23   | 18                 | 6                                 |
| T. E. | M    | 34   | 31                 | 49                                |
| D. A. | M    | 14   | 21                 | 3                                 |
| J. B. | M    | 26   | 25                 | 6                                 |
| M. P. | M    | 16   | 34                 | 2                                 |
| W. D. | M    | 23   | 45                 | ?                                 |
| L. N. | M    | 16   | 23                 | 2                                 |
| R. S. | M    | 15   | 18                 | 5                                 |
| M. M. | M    | 20   | 58                 | 14                                |
| E. T. | M    | 22   | 19                 | 4                                 |
| A. L. | F    | 30   | 47                 | 8                                 |
| M. H. | F    | 34   | 34                 | 14                                |
| F. G. | F    | 16   | 25                 | 11                                |
| L. C. | F    | 13   | 42                 | 7                                 |
| C. H. | F    | ?    | 36                 | 3                                 |
| E. C. | F    | 21   | 25                 | 14                                |
| J. B. | F    | 15   | 25                 | 7                                 |
| H. H. | F    | 26   | 25                 | 9                                 |
| J. S. | F    | 13   | 32                 | 6                                 |
| A. G. | F    | 20   | 24                 | 2                                 |
| A. G. | F    | 20   | 94                 | 12                                |

## PAINS CEASING ON SEVENTH OR EIGHTH DAY.

|       |   |    |     |    |       |   |    |     |    |
|-------|---|----|-----|----|-------|---|----|-----|----|
| E. R. | F | 16 | 35  | 9  | E. W. | F | 24 | 16  | 14 |
| C. C. | F | 18 | 19  | 14 | E. C. | F | 20 | 50  | 6  |
| M. S. | F | 30 | 13  | 35 | E. H. | F | 17 | 37  | 3  |
| C. H. | F | 25 | 28  | 7  | A. S. | F | 22 | 40  | 3  |
| S. M. | F | 19 | 122 | 2  | E. P. | F | 30 | 25  | 7  |
| C. K. | F | 14 | 46  | 8  | C. M. | F | 26 | 16  | 7  |
| M. P. | F | 31 | 27  | 35 | L. D. | F | 23 | 41  | 3  |
| C. M. | M | 22 | 32  | 3  | K. A. | F | 17 | 25  | 4  |
| G. H. | M | 31 | 32  | 3  | T. B. | F | 15 | 32  | 3  |
| G. L. | M | 23 | 31  | 6  | E. L. | F | 19 | 105 | 4  |
| C. C. | M | 25 | 28  | 4  | W. H. | F | 19 | 38  | 10 |
| F. M. | M | 28 | 110 | 2  | J. R. | F | 20 | 29  | 28 |
| T. D. | M | 19 | 122 | 2  | A. S. | F | 19 | 22  | ?  |
| A. B. | M | 18 | 37  | 12 | E. S. | F | 16 | 39  | 7  |
| J. C. | M | 23 | 53  | 14 | L. S. | F | 18 | 55  | 7  |
| T. D. | M | 28 | 33  | 1  | E. K. | F | 20 | 14  | 7  |
| J. C. | M | 25 | 28  | 14 | E. P. | F | 15 | 62  | 38 |
| W. W. | M | 21 | 30  | 3  | R. W. | F | 19 | 31  | 42 |
| N. B. | M | 32 | 41  | 7  | M. M. | F | 31 | 40  | 5  |
| A. C. | M | 19 | 28  | 4  | M. G. | F | 17 | 28  | 14 |
| J. W. | M | 10 | 18  | ?  | E. M. | F | 22 | 37  | 5  |

PAINS CEASING ON SEVENTH OR EIGHTH DAY—*cont.**Without complications.*

| Name. | Sex. | Age. | Duration,<br>days. | Ill before<br>admission,<br>days. |
|-------|------|------|--------------------|-----------------------------------|
| W. R. | M    | 20   | 32                 | 2                                 |
| N. Y. | M    | 15   | 18                 | 2                                 |

*With complications.*

| Name. | Sex. | Age. | Duration,<br>days. | Ill before<br>admission,<br>days. |
|-------|------|------|--------------------|-----------------------------------|
| E. G. | F    | 12   | 62                 | 17                                |
| E. M. | F    | 15   | 48                 | 9                                 |
| A. R. | M    | 20   | 39                 | 4                                 |
| J. H. | M    | 16   | 17                 | 21                                |
| H. B. | M    | 17   | 82                 | ?                                 |
| W. H. | M    | 31   | 26                 | 14                                |
| L. P. | M    | 10   | 33                 | 1                                 |
| W. P. | M    | 18   | 32                 | 3                                 |
| T. T. | M    | 24   | 25                 | 1                                 |
| J. A. | M    | 7    | 32                 | 2                                 |
| J. C. | M    | 22   | 55                 | 7                                 |

## PAINS CEASING BETWEEN EIGHTH AND FIFTEENTH DAY INCLUSIVE.

| Name. | Sex. | Age. | Dura-<br>tion,<br>days. | Ill before<br>admission,<br>days. | Day<br>pain<br>ceased. | Name. | Sex. | Age. | Dura-<br>tion,<br>days. | Ill before<br>admission,<br>days. | Day<br>pain<br>ceased. |
|-------|------|------|-------------------------|-----------------------------------|------------------------|-------|------|------|-------------------------|-----------------------------------|------------------------|
| E. S. | F    | 24   | 35                      | ?                                 | 11                     | G. B. | F    | 19   | 55                      | 5                                 | 9                      |
| A. C. | F    | 14   | 33                      | 14                                | 12                     | K. W. | F    | 23   | 42                      | 10                                | 11                     |
| A. S. | F    | 30   | 29                      | 5                                 | 9                      | C. D. | F    | 20   | 56                      | 14                                | 11                     |
| S. B. | F    | 21   | 15                      | 2                                 | 11                     | E. C. | F    | 15   | 32                      | ?                                 | 12                     |
| M. H. | F    | 28   | 32                      | 10                                | 9                      | A. P. | F    | 19   | 26                      | 7                                 | 11                     |
| M. K. | F    | 25   | 30                      | 7                                 | 10                     | E. D. | F    | 19   | 26                      | 21                                | 14                     |
| S. B. | F    | 29   | 43                      | 15                                | 10                     | G. B. | F    | 22   | 49                      | 28                                | 10                     |
| E. S. | F    | 20   | 37                      | 2                                 | 9                      | H. F. | F    | 21   | 59                      | 10                                | 10                     |
| E. A. | F    | 14   | 46                      | 5                                 | 9                      | E. G. | F    | 21   | 66                      | 9                                 | 10                     |
| F. W. | F    | 23   | 24                      | ?                                 | 10                     | E. M. | F    | 19   | 87                      | 8                                 | 14                     |
| J. S. | F    | 30   | 22                      | 10                                | 14                     | A. G. | F    | 15   | 58                      | 21                                | 9                      |
| A. T. | F    | 21   | 50                      | 42                                | 10                     | B. W. | M    | 19   | 57                      | 6                                 | 10                     |
| E. H. | M    | 16   | 62                      | 11                                | 12                     | J. W. | M    | 17   | 30                      | 4                                 | 9                      |
| W. H. | M    | 27   | 50                      | 91                                | 10                     | A. M. | M    | 24   | 14                      | 4                                 | 11                     |
| G. M. | M    | 29   | 45                      | 11                                | 10                     | J. P. | M    | 21   | 27                      | 7                                 | 10                     |
| J. B. | M    | 32   | 44                      | 11                                | 14                     | S. A. | M    | 28   | 27                      | 48                                | 10                     |
| E. B. | M    | 17   | 61                      | 6                                 | 13                     | D. D. | M    | 13   | 28                      | 28                                | 13                     |
| A. J. | M    | 19   | 39                      | 25                                | 9                      | W. J. | M    | 17   | 46                      | ?                                 | 9                      |
| W. L. | M    | 17   | 81                      | 35                                | 12                     | S. L. | M    | 28   | 70                      | 60                                | 14                     |
| J. G. | M    | 28   | 32                      | 21                                | 14                     | E. K. | M    | 18   | 66                      | 9                                 | 12                     |
| K. R. | M    | 24   | 17                      | 7                                 | 9                      | H. H. | M    | 22   | 26                      | 2                                 | 14                     |
| C. B. | M    | 21   | 57                      | 6                                 | 11                     | W. W. | M    | 27   | 45                      | 7                                 | 10                     |
| P. L. | M    | 21   | 23                      | 6                                 | 9                      | E. H. | M    | 27   | 35                      | 7                                 | 9                      |
| W. P. | M    | 18   | 22                      | 14                                | 12                     | W. N. | M    | 18   | 39                      | 21                                | 15                     |
| J. B. | M    | 34   | 37                      | 3                                 | 12                     | J. R. | M    | 20   | 43                      | 6                                 | 9                      |
| C. B. | M    | 26   | 25                      | 4                                 | 9                      | W. B. | M    | 24   | 43                      | 12                                | 10                     |
| L. W. | M    | 17   | 24                      | 2                                 | 11                     | E. B. | M    | 33   | 13                      | 10                                | 9                      |
| J. B. | M    | 25   | 21                      | 2                                 | 12                     | H. D. | M    | 30   | 24                      | 10                                | 11                     |
| R. J. | M    | 23   | 34                      | 14                                | 15                     | E. P. | M    | 26   | 26                      | 7                                 | 12                     |
| T. P. | M    | 31   | 20                      | 10                                | 14                     |       |      |      |                         |                                   |                        |

## PAINS CEASING BETWEEN SIXTEENTH AND TWENTY-FIRST DAYS INCLUSIVE.

|       |   |    |    |    |    |       |   |    |    |    |    |
|-------|---|----|----|----|----|-------|---|----|----|----|----|
| H. M. | M | 25 | 46 | 5  | 21 | M. N. | M | 4  | 32 | 14 | 19 |
| W. C. | M | 11 | 53 | 19 | 15 | J. B. | M | 29 | 53 | 4  | 20 |
| R. H. | M | 25 | 84 | 5  | 19 | M. B. | M | 14 | 30 | 8  | 16 |
| T. C. | M | 26 | 30 | 4  | 17 | W. H. | M | 25 | 62 | ?  | 19 |

PAINS CEASING BETWEEN SIXTEENTH AND TWENTY-FIRST DAYS  
INCLUSIVE—*cont.**Without complications.*

| Name. | Sex. | Age. | Dura-<br>tion,<br>days. | Ill before<br>admission,<br>days. | Day<br>pain<br>ceased. |
|-------|------|------|-------------------------|-----------------------------------|------------------------|
| W. B. | M    | 29   | 21                      | 10                                | 17                     |
| B. S. | F    | 25   | 33                      | 38                                | 24                     |

*With complications.*

| Name. | Sex. | Age. | Dura-<br>tion,<br>days. | Ill before<br>admission,<br>days. | Day<br>pain<br>ceased. |
|-------|------|------|-------------------------|-----------------------------------|------------------------|
| W. E. | M    | 14   | 26                      | 21                                | 19                     |
| E. B. | F    | 23   | 32                      | 5                                 | 21                     |
| E. J. | F    | 32   | 28                      | 7                                 | 17                     |
| E. C. | F    | 17   | 38                      | ?                                 | 19                     |
| M. B. | F    | 14   | 30                      | 8                                 | 16                     |
| C. S. | F    | 26   | 32                      | 21                                | 18                     |
| G. C. | F    | 7    | 47                      | 6                                 | 15                     |
| F. M. | F    | 24   | 34                      | ?                                 | 20                     |
| A. P. | F    | 17   | 114                     | 6                                 | 16                     |

## PAINS CEASING AFTER TWENTY-SECOND DAY.

|       |   |    |    |    |    |       |   |    |    |    |    |
|-------|---|----|----|----|----|-------|---|----|----|----|----|
| T. S. | F | 29 | 31 | 2  | 26 | C. C. | F | 23 | 49 | 4  | 24 |
| H. H. | F | 24 | 46 | 28 | 28 | M. S. | F | 19 | 41 | ?  | 14 |
| L. W. | F | 23 | 36 | 10 | 23 | A. S. | F | 20 | 34 | 2  | 25 |
| A. F. | F | 26 | 83 | 5  | 29 | A. J. | F | 7  | 57 | 14 | 27 |
|       |   |    |    |    |    | E. W. | F | 19 | 93 | 4  | 73 |
|       |   |    |    |    |    | N. L. | F | 20 | 54 | 7  | 35 |
|       |   |    |    |    |    | F. W. | F | 23 | 54 | 10 | 35 |
|       |   |    |    |    |    | A. H. | M | 14 | 91 | 14 | 44 |
|       |   |    |    |    |    | H. F. | M | 23 | 47 | 5  | 35 |

