Clinical journal.

(9.)

THE CLINICAL JOURNAL,

CLINICAL RECORD, CLINICAL NEWS, CLINICAL GAZETTE, CLINICAL REPORTER, CLINICAL CHRONICLE AND CLINICAL REVIEW

EDITED BY L. ELIOT CREASY.

No. 599. WEDNESDAY, APRIL 20, 1904. Vol. XXIV. No. 1.

CONTENTS.

* *Specially reported for the Clinical Journal. Revised by the Author.*

NOTICE.

Editorial correspondence, books for review, &c., should be addressed to the Editor, 35a, Welbeck Street, Cavendish Square, W., Telephone No. 104, Paddington; but all business communications should be addressed to the Publishers, 22½, Bartholomew Close, London, E.C. Telephone 927, *Holborn.*

All inquiries respecting Advertisements should be sent to MESSRS. ADLARD & SON, *Bartholomew Close, E.C. Telephone* 927, *Holborn.*

Terms of Subscription, including postage, payable by cheque, postal or banker's order (in advance): for the United Kingdom, 15*s.* 6*d. per annum; Abroad,* 17*s.* 6*d.*

Cheques, &c., should be made payable to THE PROPRIETORS OF THE CLINICAL JOURNAL, *crossed "The London, City, and Midland Bank, Ltd., Newgate Street Branch, E.C. Account of the Medical Publishing Company, Ltd."*

Reading Cases to hold Twenty-six Numbers of THE CLINICAL JOURNAL *can be supplied at* 2*s.* 3*d.* *each, or will be forwarded post free on receipt of* 2*s.* 6*d.; and also Cases for Binding Volumes at* 1*s.* *each, or post free on receipt of* 1*s.* 3*d., from the Publishers, 22½, Bartholomew Close, London, E.C.*

A CONTRIBUTION

TO THE

SURGERY OF THE UTERUS.

By J. BLAND-SUTTON, F.R.C.S.

THIS communication is concerned with the consideration of fifty consecutive cases of hysterectomy performed between January 19th, 1903 (when I resumed hospital work after my usual winter holiday), and February 19th, 1904. The operations may be of interest as indicating the widened scope of hysterectomy, and some of the cases possess features which lead me to think they will interest other surgeons.

The clinical records are very briefly summarised in the table by simply representing the initial letter of the patient's name, her age, social state, and the conditions which rendered the operation necessary. The date of the operation is given to facilitate reference to the hospital books. The facts on which the table is based were kindly drawn up for me by Dr. Provis, lately Registrar but now Physician to out-patients at the Chelsea Hospital for Women, and Dr. Victor Bonney allows me to state that he has verified the references in regard to the cases treated in the Middlesex Hospital.

I intentionally restrict collective reports of this kind to hospital work, because critics can, if they wish, test their accuracy by consulting the hospital records. This is, of course, impossible in private work, besides being a breach of confidence to publish records relating to private patients in such a way as to lead to their identification.

The pathological conditions for which hysterectomy was required fall easily into the following groups:

Cancer 5, fibroids 37, fibrosis of the uterus 6, adenomyoma 1, prolapse of the uterus 1.

A Consecutive Series of Fifty successful Hysterectomies performed at the Middlesex Hospital and the Chelsea Hospital for Women from January 19th, 1903, to February 19th, 1904.

1. Miss B., æt. 49, fibroid. Profound anæmia, January 19th, 1903.
2. Mrs. M., æt. 33, fibroid. Hæmorrhage and pain, January 19th, 1903.
3. Miss C., æt. 44, fibroid. Hæmorrhage, January 19th, 1903.
4. Mrs. P., æt. 49, adenomyoma (Fig. 4), January 26th, 1903.
5. Mrs. S., æt. 45, fibroid. Hæmorrhage, February 2nd, 1903.
6. Mrs. K., æt. 35, a very large fibroid, March 2nd, 1903.
7. Mrs. A., æt. 35, fibrosis. Menorrhagia, March 2nd, 1903.
8. Miss W., æt. 43, fibroids. Hæmorrhage, March 9th, 1903.
9. Miss C., æt. 48, fibroids. Hæmorrhage, March 16th, 1903.
10. Mrs. C., æt. 52, fibroid. Hæmorrhage, April 6th, 1903.
11. Mrs. V., æt. 35, fibroids (? sarcoma), April 13th, 1903.
12. Miss P., æt. 45, large and rapidly growing fibroid, April 13th, 1903.
13. Miss H., æt. 35, fibroids. Hæmorrhage, April 20th, 1903.
14. Mrs. C., æt. 38, fibroids. Profound anæmia, May 4th, 1903.
15. Mrs. H., æt. 53, fibroids. Bilateral ovarian cysts, May 11th, 1903.
16. Mrs. C., æt. 37, fibroids. Bilateral pyosalpinx, May 11th, 1903.
17. Mrs. B., æt. 43, fibrosis. Profuse menorrhagia, May 25th, 1903.
18. Miss B., æt. 49, fibroids. Profuse menorrhagia, June 1st, 1903.
19. Mrs. S., æt. 54, fibrosis. Menorrhagia, June 15th, 1903.
20. Miss H., æt. 45, fibroids, very large, July 6th, 1903.
21. Miss K., æt. 47, fibroids, very large, July 7th, 1903.
22. Miss P., æt. 52, fibroids, very large, July 11th, 1903.
23. Mrs. E., æt. 37, fibroids. Hæmorrhage; cyst of right ovary, July 27th, 1903.
24. Miss C., æt. 46, cancer of body of uterus, August 3rd, 1903.
25. Miss N., æt. 53, fibroids and cancer of the body of uterus, August 13th, 1903.
26. Mrs. F., æt. 46, fibroid and ovarian dermoid, August 17th, 1903.
27. Mrs. R., æt. 51, fibroids. Hæmorrhage, August 20th, 1903.
28. Miss S., æt. 47, fibroid, degenerating. Hæmorrhage, September 7th, 1903.
29. Mrs. F., æt. 45, fibroid, degenerating. Hæmorrhage, September 7th, 1903.
30. Miss J., æt. 42, fibroid. Profound anæmia, September 7th, 1903.
31. Mrs. P., æt. 24, septic endometritis, September 7 1903.
32. Mrs. T., æt. 49, fibroid. Cancer of tube (Fig. September 14th, 1903.
33. Mrs. C., æt. 32, fibroid. Hæmorrhage, Septem 14th, 1903.
34. Mrs. S., æt. 31, fibroid. Hæmorrhage and dege ration, September 21st, 1903.
35. Mrs. G., æt. 44, fibrosis. Hæmorrhage, Septem 28th, 1903.
36. Miss B., æt. 40, fibroid. Profound anæmia, O tober 19th, 1903.
37. Miss L., æt. 23, cancer of cervix. Panhyster tomy, November 2nd, 1903.
38. Mrs. M., æt. 33, fibrosis. Suspected to be can of cervix, November 9th, 1903.
39. Mrs. D.-S., æt. 38, fibroid, very large. Dermo November 16th, 1903.
40. Miss L., æt. 44, fibroid, large and growing, Nove ber 23rd, 1903.
41. Miss B., æt. 38, fibroid. Profound anæmia, N vember 30th, 1903.
42. Mrs. G., æt. 34, prolapsed uterus. Vaginal h terectomy, December 14th, 1903.
43. Miss F., æt. 47, fibroids. Pain, January 11th, 19
44. Miss P., æt. 53, cervix fibroid. Retention of uri January 11th, 1904.
45. Miss A., æt. 59, cancer of body of uterus. P hysterectomy, January 18th, 1904.
46. Mrs. S., æt. 37, fibroids, septic. Panhysterecto January 18th, 1904.
47. Miss H., æt. 49, cervix fibroid, January 25th, 190
48. Mrs. S., æt. 36, cancer of the body of the uter Vaginal hysterectomy, February 1st, 1904.
49. Mrs. R., æt. 52, fibroids. Hæmorrhage, Febru 8th, 1904.
50. Mrs. C., æt. 42, profuse menorrhagia, Febru 15th, 1904.

(Cases 23—27 inclusive were performed at the Middles Hospital; the remainder at the Chelsea Hospital Women.)

Cancer of the uterus.—There were five cases this disease: one arose in the cervix, and four we primary in the corporeal endometrium. The mo notable was Case 37, a patient with cancer of t cervix at the early age of twenty-three years. Befo the operation was performed I excised a piece growth and submitted it to the Clinical Resear Association, thinking it might turn out to be a ca of tuberculosis of the cervical endometriu Microscopically it proved to be columnar-cell carcinoma. I removed the uterus, ovaries, tub

d broad ligaments completely by the abdominal ute. I subsequently had the advantage of an dependent microscopic examination of the growth m Dr. Foulerton, who had no doubt that it was columnar-celled carcinoma, and I examined it on y own account with the same result. With regard the cases of cancer of the body it is somewhat usual to find so large a proportion as four among ty hysterectomies. One case (No. 25) was com-icated with fibroids, and in No. 48 the uterus s practically converted into a cancerous sac hich discharged a fœtid fluid rendering the patient's e unbearable.

These five cases are interesting to me as showing w undesirable it is to fix rules in regard to par-ular methods of operation. In a general way one ay say that in cancer of the cervix it is usual and many instances better to remove the uterus by e vagina, and this is my usual practice; in cancer the body it is, on the whole, a good plan to rry out abdominal hysterectomy for two reasons: (1) Cancer of the body of the uterus occurs iefly though by no means exclusively in spinsters d sterile married women, in whom the narrow gina affords a limited access; and (2) every fort should be made to thoroughly remove the allopian tubes and adjacent sections of the oad ligaments.

In the patients under consideration I found it cessary to remove the largest uterus by the ginal route because it was practically a sac of s; and for the smallest uterus, an exceedingly rophic organ in a spinster aged fifty-nine, I per-rmed abdominal hysterectomy on account of the treme narrowness and length of the vagina.

Cancer of the body of an atrophic uterus is a rticularly insidious disease, but in my experience gives excellent results to radical treatment. In e case in this list I was in a fortunate position, cause she came under my care from Oxford with diagnosis established by a careful microscopic amination of fragments of the growth removed the curette (Case 45).

The small proportion of patients on whom hys-rectomy was performed for cancer of the cervix due to the extreme care with which I select the cases operation. It is very hopeless and disheartening let a woman pass through a serious operation e vaginal hysterectomy, and then to find that e disease has recurred within a few months of her operation or even during the convalescence. Case 38 was regarded as a case of cancer of the uterus before operation, but a subsequent examination led the Pathologist to doubt this view.

Fibroids.—In thirty-six patients hysterectomy was performed for fibroids. The youngest patient was thirty-one years of age, and the two oldest were in their fifty-third year. The age-distribution is as follows:

30 – 39 = 12
40 – 49 18
50 – 53 6 = 36

Thus six of the patients had vainly waited for the menopause to bring them relief. This proportion of six in thirty-seven cases is much higher than usual. In most operation lists previously published the proportion of hysterectomies for fibroids after the fiftieth year is about ten per cent.

In two of the patients the fibroid arose in the cervix. This is about the usual proportion. Large cervix-fibroids occur, according to my observations, in about 5 per cent. of the cases (see 'Lancet,' 1904, vol. i, p. 931).

The conditions which rendered operation necessary were those in which there is substantial agreement among gynæcologists as to the need of operation, namely:—(1) Frequently recurring and long-continuing menorrhagia. (2) Septic infection of the fibroid. (3) Impacted and irreducible tumours giving rise to pain and retention of urine. (4) Fibroids which are rapidly growing. (5) Fibroids complicated with other tumours, etc. (6) Degenerate and cystic changes. (7) When fibroids complicate pregnancy and make delivery impossible.

Mr. Harrison Cripps has recently stated that "some surgeons regard nearly all cases of fibroids of the uterus as proper for operation, regardless of the fact that they may not be growing or causing material inconvenience." As he does not refer to any particular surgeon or writer, I trust this is merely an impression he has formed. I do not know any one who puts it into practice.

Of complications the following were found:

1. Bilateral ovarian tumours (Case 15).
2. Bilateral pyosalpinx (Case 16).
3. Ovarian dermoid (Cases 26 and 39).
4. Primary cancer of the tube (Case 32).

Primary cancer of the Fallopian tube is in itself a rare affection, and it is somewhat singular that in

four examples of this disease which have occurred in my practice two should have been associated with uterine fibroids. The details of the first case have been already published in the 'Trans. Obstet. Soc. London,' vol. xliv, p. 311. The condition was exceptional from the fact that the cancer arose in the tube and the growth protruded through the unclosed cœlomic ostium and infected the pelvic peritoneum (Fig. 1). (This specimen is preserved in the museum of the Royal College of Surgeons). The patient recovered easily from the operation,

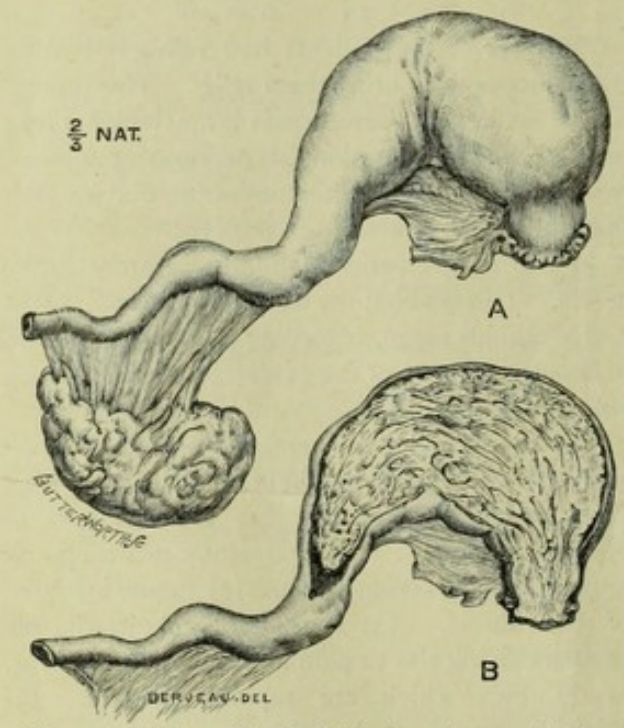


FIG. 1.—(A) Ampulla of a Fallopian tube occupied by a primary cancer; (B) the ampulla of the tube shown in section. From a sterile married woman fifty-seven years of age. The uterus and Fallopian tubes were removed on account of a large fibroid; the existence of the tubal cancer was unsuspected before operation. The growth had made its way through the cœlomic ostium of the tube and infected the adjacent peritoneum. The patient recovered from the operation and remained in excellent health for eleven months. Signs of recurrence then appeared in the pelvis, and she died twelve months from the date of operation.

and remained in excellent health for eleven months: then signs of recurrence appeared in the pelvis, and she died twelve months after the operation.

The case in the present list stands in striking contrast. The cancer arose in the ampulla of the tube, sealed the ostium, and then crept along the tubal lumen towards the uterus, and, as is well shown in the drawing (Fig. 2), the growth could be traced through the uterus but confined to the tub tissues, and we were able to satisfy ourselves by careful microscopic examination that it had not i fected the uterine tissues.

The appearance of the tube when extracte from the pelvis was like that of a parsnip with long thin root; its crimped appearance in t drawing is due to the distortion produced by t preservative solution, in which it was placed imm diately after operation.

I am unaware of any records relating to t combination of fibroids of the uterus and prima

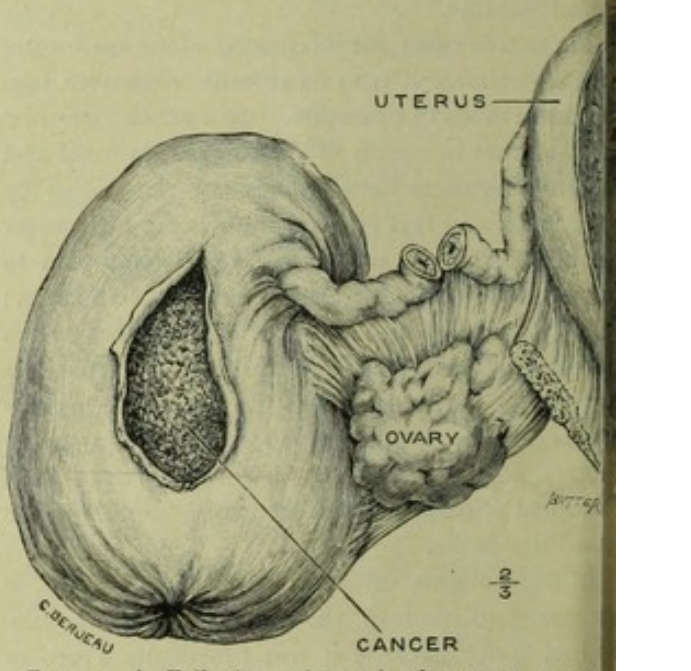


FIG. 2.—A Fallopian tube with the ovary, meso salpinx, and adjacent portion of the wall of the uterus. The ostium of the tube is closed and the ampulla distended with a soft cancerous mass which has extended along the lumen of the tube and can be traced in the tubal tissues in its course through the uterine wall. The endometrium was not implicated. The uterus contained several large fibroids. The chief symptom was profuse bleeding, which led the patient to submit to operation. (Case 32 in table.)

cancer of the Fallopian tube. Doran has carefu analysed twenty-three records of primary tub cancer, but in none was it associated with fibroi of the uterus ('Trans. Obstet. Soc. London,' vol. p. 197, 1899). The interest of the co-existence the two diseases centres in the fact that as hæm rhage is an equally significant clinical feature both, the presence of a fibroid is easier of recog tion than a cancerous tube, and, as it is the ru with many practitioners to allay the fears of t patient by false hopes of relief at the menopau

he is lulled into a false sense of security until the hances of anything approaching good result from urgical intervention are out of question.

I cannot pass from the consideration of this nteresting case in my series without drawing ttention to the important feature connected with he occlusion of the cœlomic ostium. It is needss for me to refer to the value of this event in eptic infection of the tube, gonorrhœal or puereral, or to its far-reaching effect in connection ith tuberculous salpingitis. Judging from the tudy of the two examples which have been eferred to in this communication, it seems not at ll unlikely that the occlusion or patency of the œlomic ostium, when the tubal ampulla is the eat of primary carcinoma, may not only exercise reat influence in determining whether the course f the disease shall be towards the peritoneal avity, and therefore of necessity rapidly fatal, or hall tend to traverse the narrow course of the tube nd expend its violence on the uterus. In this irection it may be assumed that its clinical course ill run less violently, though its final effect can in o sense be mitigated.

There are at present no facts available to enable n opinion to be expressed with anything approachng reliance, but it is a matter to which attention ay with advantage be directed.

The choice of operation.—The operation which I refer, and which was performed in thirty-six of hese patients, is that known as the supra-vaginal ethod: but it is necessary to state that I remove he cervix so freely, and in the majority of cases eave little of the neck of the uterus, save the cap f mucous membrane covering its vaginal portion, hat my operation is almost a panhysterectomy. n Case 46 the whole of the cervix was removed.

Myomectomy.—In addition to the patients who nderwent hysterectomy for fibroids there were even whom it was possible to relieve by abdoninal myomectomy and enucleation. There is an pinion gaining ground among those who are ntitled from their experience to form a judgment hat myomectomy is rarely advisable, and I am nclined to agree, but at the same time there are onditions in which it is an excellent operation, nd I have had the gratification of ascertaining hat patients from whom I have removed large ibroids and spared the uterus have become happy nothers. On the other hand it is necessary to state that the enucleation of a fibroid from the walls of the uterus is, in some circumstances, attended with greater risks than hysterectomy.

As the seven patients who were myomectomised recovered there is no need to enter into more details concerning them than is displayed in Table II, with the exception of Case 4. This

A Table of Seven Cases of Fibroids treated by Abdominal Myomectomy and Enucleation at the Chelsea Hospital for Women in 1893.

No.	Age and social state.	Nature of fibroid.	Treatment.	Date.
1	Mrs. G., 27	Interstitial, causing retroflexion	Enucleation and hysteropexy	1893 Jan. 12
2	Mrs. D., 47	Large subserous	Myomectomy	March 9
3	Mrs. D. O., 58	Hard, calcified, and impacted, interfering with the urethra	Myomectomy and hysteropexy	March 23
4	Mrs. N., 42	Large tumour growing from anterior wall of the cervix complicating pregnancy	Enucleation	April 13
5	Miss G., 42	Interstitial, causing very profuse bleeding	Enucleation	May 11
6	Mrs. H., 27	Subserous	Myomectomy	June 8
7	Mrs. N., 47	Subserous, associated with hydrosalpinx	Myomectomy and unilateral salpingo-oöphorectomy	Nov. 9

was a patient æt. 42, a mother of five children, who had a large tumour projecting in the hypogastrium and a soft pregnant fundus retroverted and incarcerated in the pelvis. Under an anæsthetic the fundus was successfully pushed up, and the large hypogastric tumour, which we now recognised as a fibroid, growing from the anterior wall of the cervix dropped into and obstructed the pelvis. I succeeded in enucleating the tumour through an abdominal incision without disturbing the pregnancy. The patient recovered without any difficulty and was delivered of a living child at the eighth month; but it only survived its birth two months. On March 10th, 1904, the patient was in excellent health.

Vaginal enucleation.—In order to complete the

review of my operations on fibroids in hospital work over the period covered by this communication reference must be made to four cases in which fibroids were extracted by the vagina and without difficulty. There is a fifth case which is very important to describe as it is an example of the way in which even a small fibroid will destroy life. Application was made for the admission of a hospital nurse, 38 years of age, single, suffering from severe menorrhagia, septicæmia, and very gravely ill. On admission she was found to be dying; a sloughing fibroid, the size of a bantam's egg, hung from the cervix by a thin stalk, and a fœtid fluid escaped from the vagina. The sloughing mass was twisted off and the vagina douched with antiseptics and restoratives freely administered, but she died in a few days, a victim to unnatural modesty, for she asserted that in the early days of her illness she would not permit a vaginal examination.

Fibrosis.—Six cases in my list (7, 17, 31, 35, 38, and 50), four of which are described as suffering from fibrosis of the uterus and one from septic endometritis, require special consideration. In March, 1899, in an address to the Medico-Chirurgical Society, Brighton, and published in the 'British Medical Journal,' 1899, vol. i, p. 839, I drew attention under the term "fibrosis" to a morbid condition of the uterus which presents the following characters:

"The patients are usually multiparæ between thirty-five and forty-five years of age. They complain of menorrhagia which lasts from fourteen to eighteen days. At times the bleeding is so profuse as to place life in danger.

"The uterus is enlarged and the cervix is hard to the touch. When the cervical canal is dilated the tissue of the cervix tears rather than stretches; the endometrium is quite smooth, but the walls of the uterus are hard and resisting, and the curette makes a harsh grating sound in passing over it.

"The structural changes are very striking; the uterus is larger than usual, and its walls are thick and tough. On section the arteries stand out, prominently exposing their thickened walls. On microscopic examination the muscle-tissue of the uterus is seen to be replaced by an abnormal growth of fibrous tissue. The walls of the uterine arteries are very thick, and the lumina of the vessels much narrowed and sometimes obliterated.

"The changes in the tissues of the uterus ar analogous to the curious fibrotic changes whic occur in the walls of the cardiac ventricles as sequel of syphilis. In the uterus the changes ar probably a remote consequence of septic end metritis.

"In severe cases drugs are of no value; curettin arrests the bleeding for a few months. Bilater oöphorectomy has no influence on the bleedin In desperate cases it has been necessary to perfor vaginal hysterectomy."

During the five years that have elapsed since th publication of the address referred to I have bee able to make careful observations of many cases profuse menorrhagia which repeated curettin have failed to arrest and have been strengthen in my opinion that this fibrotic change in th uterus is the final stage of a chronic septic end metritis, which may follow from gonorrhœa, or septic endometritis following labour, or miscarria (puerperal sepsis). The changes in the end metrium are much the same as those which ha been observed and carefully described in connecti with the Fallopian tubes. In the early stage th tissues are soft, swollen, and very vascular; th spongy condition slowly subsides and the infla matory exudation in the tissues organises in fibrous tissue, which gradually shrinks and effac the delicate connective tissues of the tube until becomes a hard fibrous cord traversed by irregular canal. From a careful series of obs vation I have satisfied myself that it requires fr five to ten years for gonorrhœal and septic salp gitis to convert the Fallopian tubes into hard cor such as I have described.

In the case of the endometrium there are reaso for believing that it requires several years for chronic septic endometritis to convert the uter into the hard tough condition which represents t typical and final stage of fibrosis, but the essent and important clinical feature through this lo process is a slowly increasing menorrhagia u controlled by drugs, rest, and local treatme including repeated curetting.

Without rendering a tedious account of all t patients in the list I would especially refer Case 35. This woman was 44 years of age a the mother of ten children. In the inter between the birth of the ninth and the ten children she contracted gonorrhœa from h

husband. Several miscarriages (four) followed this event, and then menorrhagia became troublesome, and finally the intervals between the menstrual periods became so short that there was an almost constant loss of thin blood-stained fluid from the uterus. At the urgent request of the doctor I performed hysterectomy.

In discussing the radical treatment of uncontrollable menorrhagia depending on fibrosis of the uterus, it is necessary to emphasise the importance of removing the whole of what I have termed the *menstrual area* of the uterus—by this I mean that portion of the endometrium which bleeds during

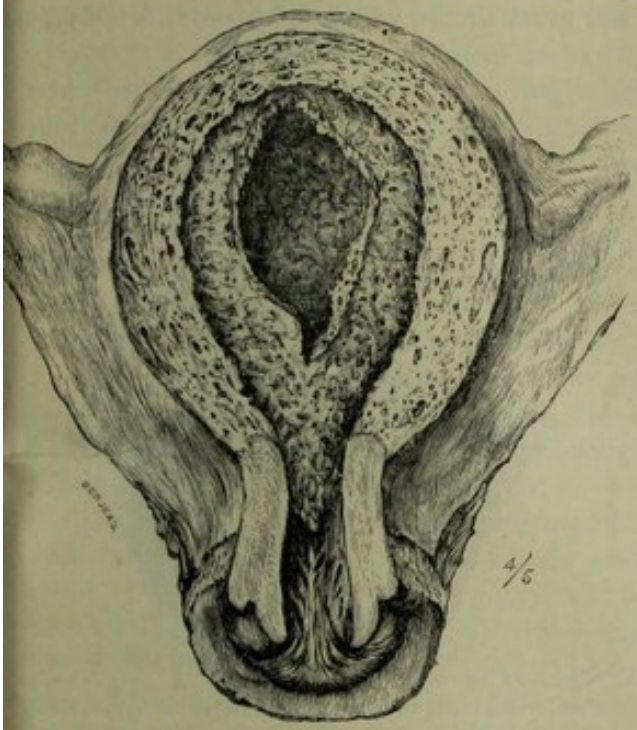


Fig. 3.—A uterus laid open along its anterior wall: it is lined with a thick decidua. From a case of tubal pregnancy. The drawing represents the "decidual" and the "menstrual area" of the uterus.

menstruation. This area is the same as that which is concerned in the formation of the decidua and is delimited in Fig. 3. The area corresponds to the endometrium of the fundus and body of the uterus; a very small surface of the cervical canal and that portion of the mucous surface which extends into the cornua of the uterus to receive the adit of each Fallopian tube.

Although in the cases of fibrosis included in my table for which I performed hysterectomy the abdominal route was selected I am sure it is on the whole better, when practicable, to perform vaginal hysterectomy, in order to make the ablation of this menstrual area as complete as possible. In a remarkable case of uncontrollable menorrhagia under the care of a colleague who performed supravaginal hysterectomy for its relief, the menorrhagia from the stump was so profuse and intractable that he had subsequently to exsect the cervical stump.

Case 31 in the list, described as septic endometritis, is of interest in its bearing on the pathology of uterine fibrosis. This patient, though only twenty-four years of age, had been twice married, and had contracted gonorrhœa from her first husband; this set up gonorrhœal salpingitis, and the left Fallopian tube became distended with pus. At this time the patient lived in Cape Town, and an experienced surgeon evacuated the pus through an incision in the posterior *cul-de-sac* of the vagina.

The woman did not make a satisfactory recovery, and began to be troubled with very profuse menorrhagia, and this added to the purulent discharge from the unclosed sinus in the vaginal vault soon reduced the patient to a very emaciated condition. The surgeon in charge of the case recommended her to come to London, and sent her to me with a request that I would remove the uterus. After much anxious consideration I felt there was no other course open to me in spite of the existence of a septic sinus in the vagina. We had a very trying time, but eventually she recovered and reported herself in February in excellent condition, plump, well and happy at the prospect of returning to her husband in Cape Colony, in good health, and in the best of spirits.

Adenomyoma of the uterus.—Case 4, described under this title, is worth considering in connection with the subject of fibrosis because the clinical features—namely, profuse and uncontrollable menorrhagia with its necessary consequence profound anæmia caused it to resemble the clinical picture of a septic submucous fibroid, and also because the condition of the uterus from the pathological side resembles, in some points, the naked-eye signs of a severe case of uterine fibrosis.

I originally saw the patient in Brighton with Mr. George Morgan, December, 1902. She was forty-nine years of age, and the mother of four children. For a long period she had suffered from menorrhagia, associated with a uterus with a patulous os and a fundus which could be easily felt as a rounded body high in the hypogastrium; it was an easy matter to infer that the womb contained, in all pro-

bability, an infected submucous fibroid. When I saw the patient she had been bleeding so profusely, and seemed so nearly dead that any examination, however carefully conducted, would be a very injudicious act, and on the facts available it seemed clear that the opinion expressed above represented the true state of affairs.

With judicious nursing the patient gradually recovered, and immediately before the advent of the succeeding menstrual period she was carefully conveyed to the Chelsea Hospital for Women, and I performed hysterectomy, still under the impression that we had to deal with a fibroid. On

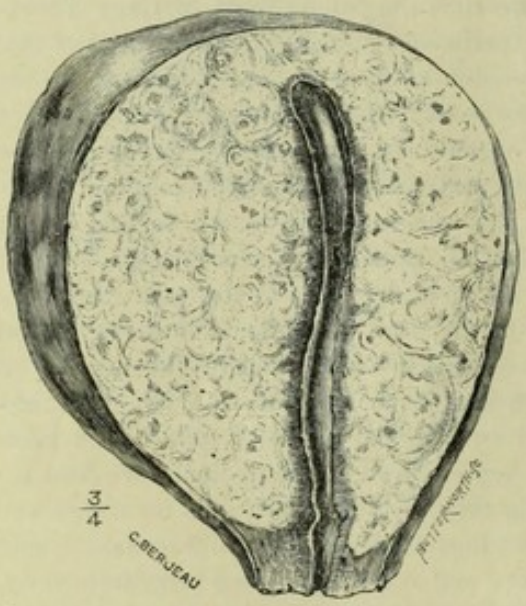


FIG. 4.—A uterus in sagittal section removed under the impression that the enlargement was due to a submucous fibroid. On section the mass appeared unencapsuled, and a careful microscopic examination showed that the walls were bestrewn with glands. A small fibroid occupied the fundus. (Case 4 in Table I.) The patient suffered from severe menorrhagia.

bisecting the uterus the walls were found enormously thickened, and a small fibroid occupied the fundus (Fig. 4).

The subsequent microscopic examination of the parts, however, showed that the thickened walls were due to an enormous increase of the endometrium and its tubular glands. The specimen has been made the subject of a careful paper by Drs. Taylor and Cameron in the 'Obstetrical Journal of Great Britain,' March, 1904, p. 248.

The condition is by no means frequent. It is certainly recognised by a few writers, but I am sure it has nothing in common with the well-marked changes in the endometrium and uterine wall which are constantly found in the condition of the womb which I have described as *uterine fibrosis*.

Prolapse of the uterus.—There is one case which stands by itself which needs some remarks, for it is of interest on account of an ethical point which arose in regard to treatment.

The patient was a medical nurse, a mother, and thirty-four years of age. Her married life being unhappy, she had to win her living by separating from her husband and resuming nursing. Unfortunately she was sadly hampered by a very large prolapsed uterus, which could not be restrained by any usual simple variety of pessary, for the peri-

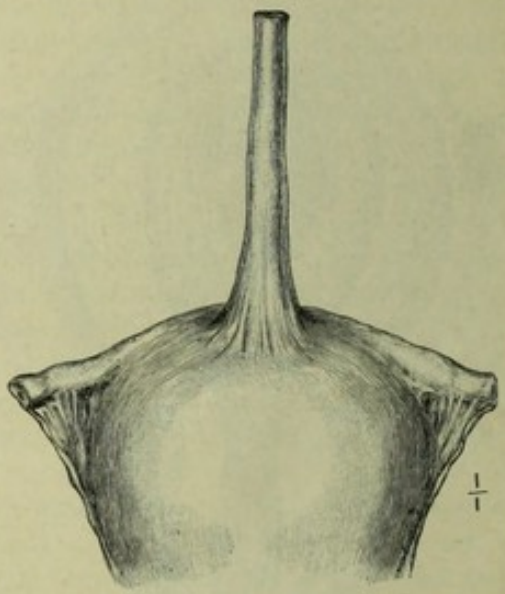


FIG. 5.—The fundus of the uterus and adjacent segments of the Fallopian tubes. A long fibrous cord arises from the fundus as a result of hysteropexy (ventro-fixation) performed nearly five years previously for inveterate retroflexion.

neum was so lax that the instrument could not be retained.

The patient was placed under my care with the intention that hysteropexy would be performed. On examination this plan was abandoned because the fundus of the uterus was big and heavy, and the supra-vaginal portion of the cervix had undergone a notable elongation. I explained to the patient that hysteropexy was out of the question because the strain of a heavy uterus on the supporting sutures leads to the manufacture of a long tendinous band, which I believe has been named "the fundal ligament." Such a ligament is represented in Fig. 5.

The patient was also anxious "to be put right"

because she attributed in some measure her domestic unhappiness to the circumstance that the condition of her uterus impeded coitus. This was probably true. I also satisfied myself that even if the uterus were stitched to the abdominal wall the length of the thick cervix was such that it would remain as a long body obstructing the vagina. The patient was allowed to weigh all the aspects carefully in her mind, and eventually she decided to have the uterus removed. Vaginal hysterectomy was carried out successfully. The uterus measured from the external opening to its fundus 15 cm. (six inches). The removal of a prolapsed uterus is not often carried out. It is rarely that a case gives me so much anxiety to decide upon a mode of operation as happened with this nurse, in whom necessity to earn a living rendered it imperative on her part to run the risk and anxiety of an operation and the loss of an organ. For myself, the anxiety to do what seemed best for the nurse caused me more concern than the forty-nine remaining cases in the list.

In reference to the "artificial fundal ligament" it may be pointed out the mode of production of this structure is practically the same by which bands arise between two segments of intestine. When the fundus of the uterus is secured to the anterior abdominal wall by an aseptic suture lymph is exuded from the contact-surfaces of the peritoneum. This effused lymph organises into a tenacious tissue, and when, as not infrequently happens, there is great strain on the retaining suture, either from the shortness of the uterus as happens in virgins, or of the actual weight of the organ when hysteropexy is performed for prolapse, the sutures gradually cut or erode their way out of the uterine fundus, but the plastic material effused around the sutures slowly stretches as the uterus descends into the pelvis and produces the tendon-like structure to which reference has been made.

It is well known that synovial membranes can produce similar bands; of these the most familiar is that which arises between the widely separated fragments of a badly united patella after simple fracture.

Brook Street, W.;
April 18th, 1904.

A CLINICAL LECTURE

ON THE

PROGNOSIS AND CURABILITY OF EPILEPSY.

Delivered at the National Hospital for the Paralysed and Epileptic, Queen Square, March 15th, 1904,

By ALDREN TURNER, M.D., F.R.C.P.,

Physician to Out-patients, King's College Hospital, and to the Hospital for the Paralysed and Epileptic, Queen Square.

GENTLEMEN,—I propose this afternoon to deliver a short lecture upon the Prognosis and Curability of Epilepsy. Those of you who visit the out-patient department of the hospital regularly see each week a large number of cases of epilepsy that have attended for periods of from one to several years, and if you examine the hospital letters of those patients you will notice that many of them show results which may be regarded as cures; that is to say, as far as one can define a cure of epilepsy as an arrest of epileptic seizures under the influence of the bromides. It is upon the investigation of a large number of cases of epilepsy that have attended here for many years that I propose to base the remarks which I shall make this afternoon.

In considering the prognosis of epilepsy there are certain points to which special attention should be given. In other words, when a case of epilepsy presents itself, what factors have you to take into consideration with a view to forming a prognosis?

1. The first is the existence or non-existence of a *family history* of epilepsy or insanity. Does such a predisposition act favourably or unfavourably in the prognosis of any given case? It may be stated that a hereditary history of epilepsy does not act unfavourably in determining prognosis. There is as great a chance of recovery or, at all events, relief from epileptic seizures in those who have as in those who have not a well-marked hereditary history. But if you inquire into the family histories of confirmed epileptics—that is, those who attend for many years without improvement in their fits, or those who enter institutions for epileptics, such as epileptic colonies, or are admitted into asylums for the insane—among such epileptics you will find a frequent history of hereditary predisposition. So that the general conclusion which

may be drawn from a consideration of the family history is: a predisposition to epilepsy does not militate against a good result in an otherwise favourable case, but materially increases the probability of the disease becoming confirmed and the supervention of dementia.

2. In the *age at which the disease commences* you have an important factor in determining the prognosis. A superficial glance at the chart will show that the confirmed cases are immensely in excess of those that are arrested. This is the first item you will notice in the study of any large series of cases of epilepsy; the cases that do not are largely in excess of those that improve. But if you look more particularly at the chart with the view of ascertaining what influence age at onset has upon prognosis, you will find the following interesting points:—If fits commence under ten years of age, considerably over 60 per cent. become confirmed epileptics, while something under 20 per cent. show arrest of the seizures. From the age of ten to fifteen years onwards you will see there is an increase in the number of cases which become arrested and a decrease in the number which become confirmed. When the disease commences between fifteen and twenty years, the common age for the onset of epilepsy, the number of cases that become arrested materially increases, while the number of cases that become confirmed diminishes. From the quinquennial period, twenty-one to twenty-five onwards, there is an increase in the number of confirmed cases, the lowest proportion of the whole series of arrested cases occurring when the disease commences between thirty and thirty-five years of age—a period which also shows the greatest number of confirmed cases. Why epilepsy commencing between thirty and thirty-five years of age should be so unfavourable as regards prognosis, I am not prepared to say; but it is a fact which the chart demonstrates clearly. Hence the prognosis is more favourable if the disease commences between fifteen and twenty than if the fits first developed between thirty and thirty-five years of age. As regards epilepsy commencing between forty and fifty and over fifty-five, the figures show, on the whole, a favourable type of the disease.

3. The third point in prognosis is the *duration of the disease* before the patient comes under observation. In a given case of epilepsy, are you dealing with the malady in an early or in a late stage? I have constructed a table with the view of showing the influence of the duration of the disease upon prognosis. A superficial examination of Chart II will show, as before, that the confirmed are largely in excess of the arrested cases of epilepsy. Cases of epilepsy of only one year's duration, before coming under systematic treatment, show that the arrested or improved examples are numerically considerably in excess of those which become confirmed. But of the cases which have a duration of from two up to thirty years there is a steady increase of those which become confirmed. The general conclusion which may be drawn is, that the longer the fits last the more the tendency for the disease to become confirmed; but arrest of the fits may take place even after a duration of from twenty to thirty years. After thirty years arrest is possible, but the fewness of the cases hardly allows of definite conclusions.

But there are one or two other points to which some consideration should be given. An important point is (4) the *frequency of the seizures*. As you are aware, epileptic fits occur as frequently as several a day, or as infrequently as one or two a year, or even one or two within two or three years. If you meet a case of epilepsy in which the fits occur so infrequently as once or twice a year, you are handling a particularly favourable form of the disease. If, on the other hand, you are dealing with a case in which the fits occur as frequently as several a day, you are treating a very unsatisfactory case of epilepsy as regards arrest. The common type of epilepsy is that in which the fits occur once or twice a week.

5. As regards the character of the fits, there are two common forms of seizure—the *petit mal* and the *grand mal*. Although the *grand mal* produces temporarily an enormous disturbance both of the nervous system and of the general condition of the patient, you are treating a favourable type of epilepsy; but when you meet with a case of *petit mal*, in which the patient exhibits an occasional and fleeting loss of consciousness, a temporary lapse of memory, or a momentary vertigo, phenomena which to your observation seem mild, you are dealing with a type of the disease difficult to influence by remedies. But when one finds the two types of epilepsy combined in one patient, it may be stated that the combination of *grand* and *petit mal* demonstrates

a severe form of epilepsy; and the majority of confirmed epileptics present such a combination.

6. How does the *incidence of the fits*—that is to say, the time of the occurrence of the seizures—influence the prognosis? It may be stated in general terms that fits occurring only during sleep are less amenable to treatment than those recurring during the waking hours. But as in the severer forms of epilepsy one finds the *petit mal* and *grand mal* combined, in a similar way the diurnal and nocturnal are combined in the majority of unfavourable cases. Not a few cases of nocturnal epilepsy occur in which the existence of the disease is unknown to the patient, as the disturbance is over by morning, and he is able to go about his work and attend to his business.

7. I shall now say a few words upon the *influence of marriage* in connection with epilepsy, because it is an important matter, mainly because the popular idea on the subject is mistaken. It is firmly fixed in the minds of many people that if an epileptic girl is married, it is the very best thing that can happen to her. There are some isolated instances in which this may be so, but in the majority of cases the result is either no change at all or the patient is made considerably worse, quite apart from the fact that she may become the mother of one or more epileptic children. So that in the event of an opinion being invited upon marriage for an epileptic girl, one's advice would be against it. But supposing that such an event as the marriage of an epileptic girl happened—and it is a common incident—and that pregnancy results, is this a favourable circumstance or otherwise? There are a number of epileptic women, becoming pregnant, who are temporarily benefited; there are others in whom no effect is produced at all upon the disease.

There are, however, three epochs in the course of childbearing which are specially favourable for the development or relapse of epileptic seizures. The first is the time of quickening. There is a tendency at quickening for a fit, or fits, to come on, or for already existing fits to be increased in number. The second epoch is childbirth itself. In childbirth an epileptic person may have a marked and temporary increase in the number or severity of the seizures. The third epoch is during lactation. So marked, indeed, is the incidence of fits during lactation that a sub-group has been described: lactational epilepsy. I have seen two cases in which the patient was free from seizures except during lactation; and this occurred sequential to three consecutive pregnancies.

A further point is the influence of the monthly period. Here, again, one may say that although fits are commoner at the monthly period, yet the cessation of the periods at the climacteric presents no specially favourable occasion for the arrest of epilepsy.

I have already referred to the *cure of epilepsy*, and I showed on a chart a number of cases in which the fits had become arrested. In the following table cases of prolonged arrest have been placed side by side with cases in which remission has occurred. Most of you are aware that remission is a marked and characteristic feature of epileptic seizures. A patient may have a number of fits over a certain period, and under treatment several years may elapse without such seizures, and then from some unexplained cause the fits reappear. These are known as remissions in epilepsy, and a prolonged remission is often mistaken for a cure. A glance at the annexed table will show that eighty-six cases are recorded in which the fits were arrested for varying periods up to twenty-five years' duration. In the same column are represented those cases in which a remission occurred, to be followed by a relapse after some years. I show you this table in order to explain what one means by a cure of epilepsy, because all cases which become arrested are not necessarily cured. For instance, I do not consider the eleven cases in which an arrest took place for from two to three years as cured cases. The question therefore arises, Is there a cure of epilepsy? Take, for instance, the case in which a remission lasted from seven to eight years. Should that be regarded as a cured case of epilepsy? Probably you will say to yourselves that there is a cure in a case in which remission has lasted so long—for this reason, that out of the whole series of cases, there is only one case in which fits recurred after an interval of eight years, namely, a case in which there was a relapse after eleven years' interval. But with that exception we find that in none did the fits recur after an interval of eight years. So that I think one may fairly lay down as a principle that should fits remain in abeyance for a period of eight to nine years, a cure of epilepsy has been established. Now if that is the

definition of a cure of epilepsy, the percentage of cases of epilepsy which are cured is 10 per cent. It is not a high percentage, but nine years is a severe test. For every year taken off that standard an increase in the number of cures will be obtained. But I have already shown that it is not safe to regard as cured cases in which the fits have been in abeyance for less than eight or nine years.

Table giving the Cases of Arrest and Remission, with the Duration.

Cases of arrest.	Cases of remission.	Duration.
11	1	From 2 to 3 years
18	2	„ 3 „ 4 „
10	4	„ 4 „ 5 „
11	2	„ 5 „ 6 „
5	2	„ 6 „ 7 „
8	1	„ 7 „ 8 „
8	0	„ 8 „ 9 „
4	0	„ 9 „ 10 „
5	0	„ 10 „ 11 „
2	0	Of 11 „
2	1	„ 15 „
1	0	„ 22 „
1	0	„ 25 „
Total 86	Total 13	

There is a further point in connection with prognosis to which I wish to refer. If a case of epilepsy is going to do well, improvement is obvious shortly after the commencement of treatment. That is to say, if within a few weeks after the commencement of regular bromide medication the fits stop, a satisfactory issue is not improbable; but if after treating a case with bromides for some years without any material change, the chances are that the case is not going to do well.

Treatment by the bromides.—I might in this connection refer briefly to the treatment of epilepsy by the bromides. Whether the treatment with bromides is in every case the proper treatment is another matter, and one into which I do not propose to enter on the present occasion. But it has come to be largely a matter of convention to treat every case of epilepsy with the bromides. I am personally in the habit of treating each case of epilepsy at the commencement with the bromide of potassium or sodium. In many cases this treatment turns out a success; in some cases it is an utter failure. But, on the general system of treating epilepsy by means of the bromides, one would like to make the following remarks:

First: Do not give too large a dose of the drug. By large doses of bromide I mean 90 to 120 grains a day. If bromide is going to be beneficial it will influence the disease in doses of 30 to 45 grains per diem. If the case does not do well on that dose it probably will not do it at all.

Secondly: Should bromide be administered in doses three times a day, or in a dose once daily? The majority of cases should be given one dose at bedtime. More especially should this be the line of treatment if the case is one of nocturnal epilepsy or of fits recurring in the early morning. If a case has fits during the late evening or shortly after going to bed, give the medicine at about five or six o'clock in the evening. If you find in any case a definite periodicity, forestall the onset by a large dose of bromide, and satisfactory results are likely to ensue.

Thirdly: For how long should you continue the administration of the bromides? Some say until you have arrested or ameliorated the frequency of the seizures. There is no greater mistake. If the fits are arrested for some months, the case is most likely to be benefited by a continuance of the drug; therefore continue the bromide indefinitely, in moderate doses. Daily doses of 30 grains of potassium bromide may be given for many years without ill effects. Some cases attending at the hospital have taken bromide for over twenty years.

Fourthly: Should the bromide administration be stopped in a case in which the disease has become arrested? Some epileptics take the matter into their own hands and on their own initiative stop the bromide treatment. If the question is put to you whether it is advisable to stop the drug, you must be guided by the facts in individual cases. I personally prefer to continue the bromide indefinitely. If the bromide is stopped some symptom, such as vertigo, will probably arise in the course of weeks or months to make the patient think that he is going to have another fit. As a matter of fact, the majority of patients with arrested epilepsy prefer to continue their medicine. That is why there are cases of from fifteen, twenty, or more years' duration coming to the hospital regularly to receive their bromide.

A DEMONSTRATION OF SURGICAL CASES

At the Medical Graduates' College and Polyclinic.

By HAROLD L. BARNARD, M.S.,
Assistant Surgeon to the London Hospital.

GENTLEMEN,—The first patient I want to show you is an oldish man with *a black, hairy tongue.* It is not a very serious condition, but it is one which causes a good deal of anxiety to the patients and sometimes to the doctor. The posterior part of the tongue becomes covered with a black, hairy kind of growth, and this spreads forward along the tongue to a variable distance in a **V** shape. The disease is due to an elongation of the filiform papillæ of the tongue. There are, of course, as you know, three kinds of papillæ of the tongue, filiform papillæ, fungiform papillæ, and circumvallate papillæ. This is a disease of the filiform papillæ, which cease to shed their epithelium. The epithelium adheres to the filiform papillæ until these become half an inch long or even longer, and grow black and dirty. The colour is not due to the presence of any particular micro-organisms. At one time it was thought that it would be possible to isolate from the condition some particular sort of fungus which produced a pigment. But it is now known that it is simply an ordinary black discoloration of the epithelium, due to sulphur in the epithelium and to dirt. The saliva is always acid in these cases, and some people have found alterations in the quantity of potassium sulpho-cyanide in the saliva, but this man has a normal quantity. The condition causes him no inconvenience except that his tongue is a little sticky and uncomfortable. With regard to treatment, every drug that has been used has had a vogue, because the disease of itself gets better and worse, and if you happen to be prescribing a drug at the time it is receding, the cure is attributed to that drug. But if you persevere with that drug you will find the condition gets worse again under the same treatment. This is the first man with the condition whom I have known to really improve for a great length of time, and the treatment is his own. He has a tooth-brush, and scrubs his tongue with it, thus removing the accumulated epithelium. Apparently this disease is due to the fact that most of these people are old and have no teeth; they do not eat hard food, so there is not the normal rubbing of the tongue, and thus the epithelium accumulates upon the tongue and produces this condition. He makes up for the lack of hard food by the periodic scrubbing with the brush. I tried on one man the effect of chewing gum, and I thought that would induce him to suck the epithelium off. But it did not have the desired effect. Permanganate of potash, corrosive sublimate, sulphurous acid, and all sorts of mouth-washes have been tried, but nothing seems to be of much use for the condition. Cases are often sent up to examinations, where they are mistaken by unfortunate candidates for instances of melanotic sarcoma, and I have known the suggestion to be made that the entire tongue should be removed. It is important, therefore, to recognise the condition and avoid giving a gloomy prognosis and advising operative measures.

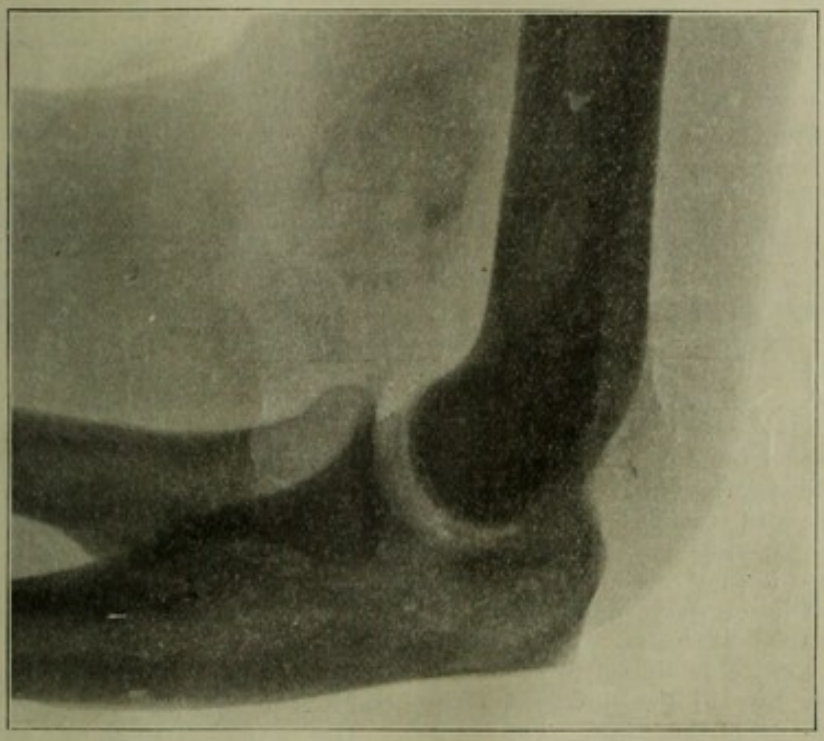
The next patient is an old man who suffered from *diabetic gangrene of the foot.* He came to me some months ago. Amputation was performed on August 20th last. We examined his urine, and found that he had a considerable quantity of sugar in it, and I am showing you the case that you may see the result of an amputation for diabetic gangrene. He is one of five patients who have all been treated on the same lines, and those lines I shall tell you of in a moment. I have not had a death among the five, though the last one is not quite healed yet. I think you will find, if you consult practical surgeons, that five diabetic gangrenes amputated in sequence without one going wrong is a fairly good proportion. These are the lines of our treatment which consists in the co-operation of the physician and the surgeon, and that co-operation in these cases I think you will find ensures success. These cases were almost uniformly unsuccessful at the London Hospital when I first began to inquire into the subject. The reason appeared to be that the surgeon amputated the leg with all the aseptic precautions he could, but without taking any notice of the diabetes. He cut the leg off just as if it were the leg of an ordinary person, with very bad results. Some of them suppurated, and gangrene reappeared in the flaps, and many of them got diabetic coma after the operation. I consulted with Dr. Robert Hutchison upon this point, and I forget

where we got the idea, but it was that no case should be touched by the surgeon until the urine was free of sugar, or until it had less than ½ per cent. of sugar. It is sometimes very difficult to get rid of the last ½ per cent. If you follow this rule in diabetics, their surgery is thereby rendered safe, in my opinion. I always transfer this kind of case to Dr. Robert Hutchison, and they remain under his care until he can guarantee that the urine contains less than ½ per cent. of sugar. Then I operate upon them, with the greatest possible care, to ensure asepsis. That point is sometimes forgotten, that a diabetic subject is far more predisposed to suppuration than are other patients. You know that certain micro-organisms will not grow upon gelatine or agar unless you add glucose to the culture. So this man may be regarded as a very suitable culture medium for micro-organisms because there is a considerable proportion of sugar in his blood. His serum would be extremely favourable to the growth of anaërobic micro-organisms. You will, therefore, not find him safe for surgery until you have reduced that proportion of sugar to the greatest possible extent. You will probably ask why I have amputated so high up, when the man will tell you the gangrene only had extended half-way along the foot. I never consent to amputate below the knee in this condition; I think that is the lowest point at which you can successfully remove the limb in diabetes. I have seen people attempt a Symes' amputation at the ankle-joint for it when there was gangrene of one toe. In such cases, what invariably happened was that sloughing and suppuration followed in the lower part of the leg. I have seen the operation done at the point of election just below the knee, but gangrene once more started in the flaps. So the lowest amputation which I think should be performed is a Stokes-Gritti (a supra-condylar amputation) just above the knee-joint. Some surgeons hold even this point to be too low down, and that the leg should be amputated in the thigh, but a Stokes-Gritti is the last good amputation proceeding up the limb. This stump will bear pressure and blows on the end of it, and with an apparatus the patient can run. You see I can hit him on the end of the stump, and he will tell you that this produces no pain. In this operation the patella is left in the anterior flap; it is sawn in half and the cartilage removed, leaving a raw surface of bone. The femur is then sawn off above the condyles, and the raw bone-surface of the patella drops into position on the end of the shaft. Those surfaces unite together. As a result of this arrangement, this man will rest his weight on his knee-cap in his artificial limb, and this will secure strength and comfort; so that, as I say, he will be able to run. In any other kind of amputation he would have to take the weight of his body on his tuber ischii and trochanter, and that is much less satisfactory and powerful. The vessels are always very diseased in diabetic gangrene, and consequently in any lower amputation than a Stokes-Gritti there is very great difficulty in getting a ligature to hold. In one case I even had difficulty in applying a ligature to the popliteal—the artery was so calcareous.

The next case is a young man suffering from *myositis ossificans traumatica*; that is to say, he has developed in the brachialis anticus muscle in front of his right elbow a bony mass. When he relaxes the muscle I can move it from side to side, but when the muscle contracts the lump becomes fixed. It is about the size of a hen's egg, lies somewhat transversely in front of his humerus, and it is hard and bony. When I grasp his hand and tell him to flex his arm it fixes the bony tumour absolutely. This shows it to be in the brachialis anticus or in the biceps; but we can feel that it is not in the biceps. This condition was the result of a dislocation. I show you a skiagram of the elbow at the time of dislocation. The swelling was so great after the accident that I am sorry to say the dislocation was not recognised and reduced for three days. Here is a skiagram which was taken after it was put back, by which you see it went back into its right place. Then he was sent down to the out-patient department to have massage in order to restore the mobility of the arm, and gradually this hard lump appeared in front of his elbow. A skiagram taken of it recently shows a bony mass in that situation (*vide* figure). There are two kinds of myositis ossificans. One is due to trauma, and of that this is a very good example. The other kind is idiopathic; that is to say, it comes for no known reason whatever. The traumatic variety follows injuries to the periosteum, in which the muscles are bruised. One of the best examples I saw before this case was a man in whom a wheel passed over the front of his femur. He did not break his femur, but we suppose that the wheel bruised the periosteum and let loose osteoblasts into the blood-clot in the crureus muscle, and that ossified. He had, as a result, a large osseous mass form on the front of his thigh, which was movable upon his femur, and which, when he fixed his thigh muscles, became fixed in a similar way to this case. I have seen another case exactly

similar to this produced by a dislocation. The idiopathic variety starts as an inflammation, followed by ossification in the fibrous strands between the muscle-fibres, and it is first found in the back muscles. You must have seen cases of it in penny shows. They are exhibited as petrified people, and the condition gradually spreads. The last muscles to be ossified are the jaw muscles. Of course the patient does not long survive the ossification of these and of the respiratory muscles. There is nothing in common between these two conditions except the name, and except the fact that in both conditions the muscle is ossified.

This girl is the subject of *multiple tubercular lesions*. The one I particularly want to show you is the right shoulder. The right shoulder is partially



anchylosed. On moving her arm forwards and backwards it appears to be quite mobile, and one might easily suppose she had not anchylosis of the right shoulder; but when I turn her round so that you can see the angle of her scapula, you will at once perceive that every movement of the humerus is accompanied by the scapula, and the mobility is really that of the scapula on the thorax. Therefore, in examining such a shoulder one must grasp the angle of the scapula in one hand and the arm in the other, and you will then find there is only a very little movement in the shoulder-joint. This condition came on quietly in this girl, and I have no doubt it is a dry tubercular arthritis of the right shoulder, chiefly for the reason that she has a tubercular hip upon the left side of very old standing, and that tubercular hip has produced the usual scoliosis of the spine. You see her spine shows a convexity to the right in the lumbar region and a convexity to the left in the dorsal region. The left hip is higher up than the right. Also she apparently has congenital ptosis of the left eye, and you will notice that the lid droops in a sleepy fashion. Further than that, she has, from the paralysis of the dilator fibres of the iris, contraction of the pupil on this side; the pupil is smaller on the left side than on the right. These signs lead me to the conclusion that she has paralysis of the sympathetic on the left side, but there is no reason which we can discover for this. Another method of examining for sympathetic paralysis is to squeeze the lobule of the ear between your finger and thumb. The pupil should not dilate on the same side if the sympathetic be paralysed. The sensory impulses pass up the fifth nerve into the medulla, and the reflex comes back by the sympathetic to the dilator fibres of the pupil. The pupil dilates from fear by the sympathetic and not by means of the third nerve, and, in such a case as this this dilatation should be absent on the left side.

The next patient is a woman of about middle age who had a tubercular knee when she was fifteen months old. She is now forty-four. No care was taken to prevent that knee becoming flexed, and tubercular knees always have a tendency to become flexed. So you see this knee, which suppurated and was drained, became more and more flexed until it is well past a right angle, and the length of her boot was gradually increased to compensate for this shortening. I find it is now ten and a half inches from the sole of her foot to the ground. I show the case to impress upon you

the great importance of preventing such flexion as this. It must be guarded against for years after any operation has been performed on the knee-joint, and it is necessary that they should wear either a poroplastic apparatus—which is the best—and that will prevent after-flexion; or, if the patient could not afford that, she should at least have had repeated plaster-of-Paris splints. After the knee-joint has been excised, or if it has been drained, or in any of those conditions where it has become anchylosed it is necessary to guard against this flexion. Otherwise they must drag about with them for the rest of their lives a great boot like this. She complains that she is always putting her ankle out, and we are ordering her a new boot in place of this worn-out one; but I do not propose, nor would she consent, to an excision after all these years.

The last three cases I shall show you are an interesting series of *diseases of the sternum*. There are practically two common diseases of that bone, although we might enlarge the list to several more. Those conditions are tubercle and syphilis. I have also a case of typhoid disease of the sternum to show you. This is a case of *tubercle of the manubrium*. This little girl was admitted to my care two years ago for tubercular disease of the manubrium, and I scraped out the carious bone and removed practically the whole of it. The tubercular material extended through into the anterior mediastinum, and there was a condition of tubercular mediastinitis. I scraped away as much of that as I dare, but when I found that the tubercular material extended further, and that I was already getting among the great vessels, I thought it was time I held my hand. She has done very well since, but the wound has not healed up, and you will see in the middle of where her manubrium should be an open tubercular sore. I propose to transfer her to the X-ray department, to see if the application of those rays to the surface will encourage the healing up of the sinus. The other diseases of the sternum are typhoid periostitis of the sternum and syphilitic sternum. If you want to make the list more complete you may include aneurysm perforating it, and lympho-sarcoma of the glands of the mediastinum perforating it. I have seen recently an aneurysm perforating it and forming a pulsating tumour. A year ago I saw a lympho-sarcoma of the anterior mediastinum which had eroded the sternum and come through; but both those latter conditions are rarer than those I have here, but perhaps not rarer than this *typhoid sternum*. This man has three typhoid lesions, one of which is of the sternum. It is nine months since he had typhoid, and it was not until three months after he had apparently recovered that he developed his first swelling upon the chest. You will find that on the left side of his sternum, at the junction of the fourth cartilage with the sternum, there is a sinus which leads down to the remains of the chondro-sternal joint; I have removed half an inch of diseased cartilage and the adjacent bone of that joint. I scraped it out, and it is now healing. The pus from that lesion was sent to Dr. Bulloch, who found it was a pure culture of typhoid bacilli. This patient has since developed another lesion on the cartilage of his ninth right rib, and there is another upon his left ulna, which I think is subsiding. He is coming into the hospital to have the rib abscess opened and scraped. These typhoid periostites are very interesting, and they sometimes persist for a great length of time after the typhoid itself has subsided. One man I saw three years ago had had an open sinus like that discharging for two years after his attack of typhoid, and Dr. Bulloch in that case examined the pus and found it still a pure culture of typhoid bacilli. The same bacilli have also been found in the gall-bladder even years after an attack of typhoid. And it is said that when gall-stones occur in unusually young people they can nearly always be traced back to an attack of typhoid in which a cholecystitis was set up, and that this in due time led to the gall-stones. A very interesting thing was told to me by Dr. Bulloch in connection with the case in which he found the typhoid bacillus two years after the typhoid had subsided, in the pus from a rib. In that case the typhoid bacilli cultivated from the pus were clumped by the man's own blood. Widal's reaction was given in that way. And that is somewhat against the view that the clumping of typhoid bacilli by the blood-serum is a preliminary stage to their destruction, because this man's own blood produced clumping, and one can hardly believe that it was capable of killing them afterwards; at any rate, it had had plenty of chances of doing so in two years and did not appear to have succeeded. Dr. Bulloch also found that the liquor puris from the pus clumped the culture from the pus itself.

The next is a common form of disease of the sternum. You will see upon the upper and right part of this manubrium a swelling, which was very much larger a week ago, and it is smaller now because he is very susceptible to iodide of potassium, for when he takes a few doses of that drug his lumps, of which he has had many, clear up. This swelling is firmly fixed to the sternum, but the skin moves freely over it. At its centre fluctuation is obtained, but the marginal part is hard and crater-like. You will find this is the commonest form of disease of the sternum, namely, syphilitic, and a common situation for it is in the manubrium. This ulcer on the right side of the forearm is rapidly healing, whereas a week ago it was in a sloughy condition. You will find he is suffering from two syphilitic testicles, which exhibit no testicular sensation, and which are rapidly subsiding under the same treatment.