Medical Superintendent's report upon the isolation hospital for the year 1st April, 1925 to 31st March, 1926.

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SWINDON AND DISTRICT HOSPITAL BOARD.

MEDICAL SUPERINTENDENT'S REPORT UPON THE ISOLATION HOSPITAL

for the Year

1st. April, 1925 to 31st. March, 1926.

To the Chairman and Members of the Swindon
and District Hospital Board.

Ladies and Gentlemen,

I have pleasure in submitting the Annual Report on the Isolation Hospital for the year ended March 31st. 1926. The greater part of this Report consists of matter relating to the epidemic of scarlet fever which occurred during the period May 1925 - March, 1926 in the district served by the hospital. Strictly speaking the report of this epidemic falls not within the province of the Medical Superintendent of the hospital, but of that of the Medical Officer of Health of the Sanitary district. As, however, it was quite impossible to discuss this epidemic intelligently until the evidence from the hospital was available, it was considered best to publish it first in the report to the hospital and abstract it for inclusion in the Annual Report of the Medical Officer of the Borough.

The province of the Hospital Board covers only the provision of accommodation for cases of infectious sickness; its function starts with the collection of patients and finishes with their discharge; it has no say in the control of infection nor the practice of epidemiology; but force of circumstances and the saving of re-duplication of equipment and records has caused the hospital to become the centre for the control of infection in the district. This is in accord with modern Public Health development which seeks to correlate all measures for the suppression of disease and utilises all that is available to produce its maximum benefit.

During the six years that your present Superintendent has been with you an advance has occurred in our knowledge of infection as great as that which has occurred in any science at any time, producing a change most profound in our conceptions of the problems presented, leading to a total reconstruction of our methods of controlling and curing infectious diseases.

The hospital came into existence as the result of the Isolation Hospital Act 1893. At that time it was believed that the segregation of the infectious sick would stamp out epidemic disease and the isolation hospitals were erected solely for that purpose. Treatment of patients was allowed rather than encouraged and, as at that time there was no specific treatment for any infection, adequate nursing was practically all that was needed. The hospitals failed entirely in their prime objective, which was founded upon faulty premises. The position at present is totally different from what it was in 1893. The isolation hospital of today exercises a profound influence over the spread of epidemic disease, but this influence is not due to segregation but to treatment. To separate the infectious sick from the community for a limited period serves very little, to cure the infectious sick puts an abrupt termination to the spread of infection. Treatment has now become all important. Rapidly increasing in power and applicability, specific treatment for infections becomes also more difficult and expensive and, unfortunately, also more lengthy.

It is unnecessary to detail the complete change over of views and practices which has occurred during the past six years, but it is politic to review the progress which was made during 1925. The only change in the administration of the hospital was the resolution of the Board to accept cases of puerperal sepsis without notification as 'Puerperal Fever'. This reform is important, not that it made much difference either in the number or class of cases of puerperal disease admissible to the hospital, but it cleared the ground of the greatest obstruction to the early treatment of the puerperal infections.

The progress made by science during the year was immense. Late in the year, the introduction of an anti-toxin for scarlet fever gave us a valuable addition to our means of combating this disease; advances in technique and preparation added greatly to the efficiency of the sera antagonistic to pneumococcus and several strains of streptococcus. Bacteriology increased our knowledge of the varieties of the pneumococcus, the strains of streptococcus responsible for most forms of puerperal infection and the more specialised form which is the causal agent of scarlet fever. Advances of importance were made in our knowledge of smallpox, measles and the obscure infections of the nervous system; whilst progress in haemotology added to our powers of estimating the reaction of the host against parasitic invasion. To utilise the truths which research reveals for the suppression of disease and its disasters requires long and careful experimentation and is beset with difficulties, scientific, social and administrative, which call for determination and labour. Yet when we see the rising efficiency which follows the application of advancing science; when we see cases sick from conditions which even last year could not be prevented from ending fatally, recovering, and that speedily, by modern methods, we are little prepared to waver or to halt because of obstructions or of difficulty. Time is unfortunately the greatest enemy to be confronted. Complete reliability of diagnosis and accurate biological measurements are necessary before modern treatment can be applied. To obtain the information requisite takes on the average an hour and a half for each case - time which on too many occasions is not available.

Swindon Isolation Hospital is on the whole well equipped for its purpose. The area is large (9 acres) and the buildings good and well separated. Further provision for open air treatment is needed and some reconstruction of the old (now the convalescent) scarlet fever block, which is not very servicable at present, are worth consideration in the near future. The diphtheria-enteric block is excellent, and so is the new scarlet fever block, though the latter would be improved by partitioning and the provision of veranda accommodation on the South side. The administrative block and accommodation for the staff is in some particulars poor and insufficient. The institution is about large enough for the present needs. Should it ever need enlargement this would be best effected by the addition of semi-permanent shelters. Isolation wards are somewhat short, which in times of stress, such as ruled throughout last year, leads to difficulties, when, owing to the severity of the weather, outdoor treatment was not feasible.

Great praise is due to the members of the nursing staff for the attention with which they discharged

their duties during this unusually onerous year. With the exception of the Matron, Sister and Charge Nurse, all the nurses were new, untrained to medical work. There were very few nights on which the matron was not disturbed by matters of great urgency and almost every day something occurred which threw extra labours upon the nurses.

The year ended 31st. March, 1926 was the busiest in the history of the hospital. The number of new admissions was 485 against 240, 228, 307, 303 and 190 for the five preceeding years. The types and varieties of disease treated were of a more serious nature than usual and, as has been indicated, the application of modern methods of treatment enhanced considerably the time and attention required by each patient.

On April 1st. 1925 there were 21 cases in hospital, 485 new cases were admitted, making 506 under treatment during the year. Of these:

438 were discharged cured
1 was discharged to another institution.
2 were transferred to their homes.
33 died
and 32 remained in hospital on 31.3.26.

The new admissions were received under the following notifications:-

Scarlet Fever	231
Diphtheria	154
Pneumonia	50
Enteric Fever	4
Encephalitis Lethargica	4
Cerebro-spinal meningitis	4
Erysipelas	9
Puerperal Sepsis	15
Babies with mothers	9
Dysentery	1
Unnotified	4

These cases were admitted from the following districts:-

Swindon Borough	360
Highworth Rural District	117
Wootton Bassett Rural District	2
Chippenham	3
Malmesbury	3

The cases arranged according to the final diagnosis were:-

Diphtheria	131
" and measles	1
" " whooping cough	1
" " mastoid (operation)	1
" " empyema	1
Scarlet fever	204
" " measles	18
" measles and whooping cough	1
Measles	9
Rubella	1
Para-typhoid	3
Pneumonia (Primary)	17
" and measles	17
" " whooping cough	3

Pneumonia (Influenzal)	3
" (Terminal)	2
Dysentery	1
Erysipelas	9
Cerebro-spinal me ningitis	5
Puerperal Sepsis (Mammery Abscess)	1
Septicaemia from wound	1
Incomplete delivery	1
Puerperal Mania	1
Cervical sepsis	4
Uterine sepsis	7
Babies with mothers	9
Vincent's Vagina	1
Stomatitis	2
Tonsillitis	17
Septicaemia	1
Tuberculous Meningitis	1
Acute Bronchial tuberculosis	1
Congenital syphilis	1
Pulmonary oedema	1
Pleurisy	1
Empyema	1
Cerebral thrombosis	2
Uraemia	1
Infantile Diarrhoea	1
No obvious disease	2

Diphtheria.

Diphtheria was somewhat prevalent and its severity was great. 154 cases were admitted under the notification of diphtheria; of these 131 had uncomplicated diphtheria, 1 had diphtheria and measles, 1 diphtheria and whooping cough, 1 diphtheria and mastoid operation, 1 diphtheria and empyema, or 135 true diphtherias. 15 were cases of tonsillitis, 1 of stomatitis, 1 of Vincent's angina, 1 of scarlet fever, and 1 had no obvious disease.

On 1.4.1925 there were 13 cases of diphtheria in hospital, so that 148 cases were under treatment during the year. Of these 10 died (5 haemorrhagic cases, 3 laryngeal diphtheria, 1 cardiac paralysis and 1 general paralysis); 10 remained in hospital at 31.3.26 and 148 were discharged cured..

6 cases of haemorrhagic diphtheria occurred, - an unusual proportion. One of these recovered, the third case of haemorrhagic diphtheria which has recovered in the past six years. 10 cases of respiratory diphtheria occurred - again a very unusual number. One of these complicated with measles died (probably from measles); another, an extensive tracheal diphtheria, without involvement of the larynx, died almost immediately on admission; and a third case died after tracheotomy. The remaining seven cases recovered, 3 required tracheotomy; 4 yielded to serum alone. There was one case of genuine diphtheria of the eye. Six cases developed paralysis. All recovered. 1 case admitted with paralysis died (the first stage of the disease had been missed). Two cases developed cardiac failure, 1 died, 1 recovered. Of the complications, 1 case developed measles in hospital, 4 had otorrhoea, 3 enlarged glands requiring incision, and 2 were septic. All these recovered. The type of diphtheria was severe and its virulence steadily increased throughout the year.

50 cases were admitted under the notification of pneumonia. Arranged in accordance with the final diagnosis these were:-

	Cases	Recovered	Died
Primary Pneumonia	17	17	-
Measles Pneumonia	17	14	3
Whooping Cough Pneumonia	3	2	1
Influenzal Pneumonia	3	2	1
Terminal Pneumonia	2	-	2
Empyema	1	1	-
	43	36	7
Septic Scarlet Fever	1	-	1
Erysipelas & Septicaemia	1	-	1
Tuberculous Meningitis	1	-	1
Quinsy	1	1	-
Congenital Syphilis	1	(Transferred to V.D. Clinic and died)	
Pulmonary Oedema (Heart)	1	-	1
Pleurisy	1	1	-

The complications were few. 1 case developed jaundice and ear disease and 1 case developed ear disease requiring Weil's operation. Both recovered. 1 case (Pneumonia and septic measles) developed double pan ophthalmitis. The case recovered but was left totally blind.

These results are satisfactory; especially the 100 per cent recovery from primary croupous pneumonia. In comparing the mortality of cases of pneumonia treated in hospital with that of those treated otherwise, the total gross mortality must be taken (16 per cent against 33%).

Pneumonia is a term loosely applied to a group of diseases in which the pneumococcus is the causal parasite and the stress of the reaction falls partly upon the lung. There are at least four different varieties of the pneumococcus and as specific treatment is dependent upon the specific type of parasite, it is important to diagnose them differentially. The correlation between the different types of the parasite and the different clinical types of the disease is very obscure. By serological methods and possibly by the changes in the blood corpuscles, the varieties of the infection can be differentiated, but at present these have not been worked out fully clinically.

The outlook in cases of pneumonia can be determined with great accuracy by the examination of the blood, if the exact date of the disease is known at the time the blood is examined. By this means cases of 'primary' pneumonia can be divided into those which will recover with skilled nursing and proper hygienic environment and those who normally will die. Some of the latter can be saved by specific treatment. This is only in its infancy and at present is difficult and uncertain. Pneumonia secondary to measles, whooping cough and influenza does not at present permit of such exact prognosis, for the blood changes of the primary

disease complicate the picture and these have not yet been worked out. Specific treatment for these cases is also at present unreliable.

Towards the end of 1925 accommodation for cases of pneumonia became scarce, so that we could only accept a few of the many cases for which admission was sought.

Puerperal Sepsis.

15 women and 9 babies were admitted. Of the babies two were infected with the same disease as their mothers; they recovered. The other 7 babies were admitted in order to enable their mothers to nurse them. Breast feeding is not only essential for the babies, but it is of great importance to the mother especially in states of infection. Physiological activity is always antagonistic to disease and the practice of weaning babies because of the development of acute disease in the mother, which up to recently was almost universally advised, adds a violent physiological disturbance which hinders the chance of recovery.

Of the 15 cases of puerperal sepsis, 1 was septicaemia due to a wound inflicted before delivery. The cause of this septicaemia was a streptococcus of unusual type, for which no specific treatment was available. The patient died and an inquest was held over her.

1 case of mammary abscess recovered. 1 case of puerperal mania was nursed throughout at the hospital. She recovered completely. Her physical condition (fortunately) precluded her from being sent to an asylum. 1 was a case of incomplete delivery (triplets); 4 were infections of the cervix and 7 were uterine infections. All the uterine cases were treated by specific sera and all recovered. 1 case was supposed to be moribund on admission and two others were presumed to be hopeless.

Since puerperal sepsis has been admitted to Gorse Hill, and all cases have been treated by serum therapy, every case but one has recovered. But it must not be imagined that success is always attainable, for owing to the profound difficulty of determining the type of the infecting organism and the uncertainty of the specific action of the sera available, the success of treatment is at present a great deal a matter of chance. Advancing research renders this chance a steadily improving one; but a difficulty, at present insuperable, is presented by the limits of time. Of the four really desperate cases which were treated in the past year, not one could have lived 36 hours without relief and to differentiate organisms with certainty in this period is not possible. No treatment apart from serum therapy is employed during the acute stage of the disease, beyond ensuring drainage, but when the acute period is over, many cases call for local treatment. Arrangements are made for obtaining surgical aid if this is required, but so far the services of the surgeon have not been called for.

Bacteriological and Pathological Department.

Up to the present bacteriological and pathological investigations have been considered as accessories to medical diagnosis and treatment, but it is time they were considered in their true light as

integral parts of clinical investigation. In states of infection the examination of the blood and of pathological material is of greater importance than the clinical examination, for though diagnosis can only be made at the bedside, the evidence upon which the diagnosis is founded is furnished mainly by the laboratory. For this reason no separate record is kept of the laboratory work done, except in the matter of examination of swabs for diphtheria, which is charged to the accounts of the sanitary authorities on whose behalf they are undertaken.

During last year:-

955 swabs were examined for Swindon Borough.
170 " " " " Highworth R.D.C.
560 " " " on behalf of the Hospital Board.

Of the 1,125 swabs examined on behalf of the sanitary authorities 134 were positive, 991 negative.

I have the honour to remain,
Your obedient Servant,

DUNSTAN BREWER.

Medical Superintendent.

Public Health Department,
61, Eastcott Hill,
SWINDON.

23rd. April, 1936.