PAEDIATRICS OF THE PAST

A NOTE ON PRACTICE OVER THE PAST 60 YEARS IN THE QUEEN ELIZABETH HOSPITAL FOR CHILDREN

BY

E. H. BACK, M.B., B.Chir., M.R.C.P.

AND

S. LEVIN, M.B., B.Ch., D.C.H.

*Queen Elizabeth Hospital for Children, Shadwell,
London, E.1*

On looking through the old records of this hospital we noted many interesting features of children's diseases. Records have been found from as early as 1885, and we are fortunate in having 198 actual case notes written by house-physicians and house-surgeons in 1893.

The hospital was founded by Dr. and Mrs. Nathaniel Heckford in 1868. The original premises were in an old sail-loft at Ratcliffe Cross, but in 1877 the hospital was formally opened on its present site—being then known as the East London Hospital for Children and Dispensary for Women. Until the beginning of the second world war the hospital had between 100 and 140 beds. There were roughly 1,500 admissions a year, and all types of cases were taken, including diphtheria, typhoid fever, whooping-cough, and often measles. When practicable, these obviously infectious cases were sent to fever hospitals, but more often than not they were nursed in special wards in the hospital.

During the second world war the area surrounding the hospital was heavily bombed; indeed, the hospital itself suffered severe bomb damage and many records were lost. The surrounding area is now largely depopulated and the hospital no longer caters for the same numbers as in pre-war days.

Case Histories for 1893

The 198 case histories for the year 1893 show that all the patients were admitted under the care of Dr. Eustace Smith, who was senior physician for 40 years, until his death in 1913. Most of the histories concern patients over 2 years of age. There are very few on infants under a year, and very few on fatal cases, so that these particular case notes are not representative of the period as a whole. However, many of them are interesting and instructive. Among the diagnoses included in the notes are: croupous pneumonia, pleuropneumonia, bronchopneumonia, pleurisy, pulmonary tuberculosis, tuberculous peritonitis, empyema, influenza, enterica, diphtheritic paralysis, renal calculus, tetany, rickets, and jaundice.

The case histories are short and to the point. Past history and family history are nearly always noted, with particular reference to a family history of tuberculosis; but social history is never mentioned. Progress notes, besides referring to the clinical condition, often record the food eaten and the nature of enemata given. Drugs used in the treatment are rarely mentioned, and this is in accord with the views of Dr. Eustace Smith on the value of drug therapy in disease in children. In his book *A Practical Treatise on Disease in Children*, published in 1889, he writes: "In the matter of treatment, it has been the aim of the writer to emphasize the value of diet and judicious nursing in the cure of disease, and to allot only a secondary place to the actual administration of physic." In the same book there is some excellent advice regarding measles: "It is not necessary in cases of measles to keep the child dirty."

With regard to the physical examination there is usually a detailed description of the pulse, and in the presence of heart disease the cardiac outline on percussion is noted, as well as the presence of murmurs. Physical examination of the lungs is described very carefully and in great detail, rubber stamps of the chest often being used to depict physical signs. Abnormal findings in the abdomen are fully described, but rectal examination is not mentioned. There is seldom any information on the extremities and the central nervous system. In cases of fever the skin texture is often recorded.

The use of the ophthalmoscope is noted on one occasion. The urine was sometimes tested for albumin, and occasionally examined microscopically in cases of nephritis. Other pathological investigations are not recorded, but in one case of fibroid phthisis it is stated that tubercle bacilli were found.

Temperature charts are attached in every case, and were printed by Wertheimer Lee and Co., E.C.2. These charts are much the same as any other Rigden chart, and only the temperature is shown in graphic form. A note is made of pulse and respiration at the bottom of the chart. Temperatures were taken at 2, 6, and 10 o'clock during the day and night in pyrexial cases, and twice a day in afebrile patients.

A number of cases of rheumatic fever are reported. The terms mitral stenosis and aortic incompetence are not used, but when the heart was affected the diagnosis was morbus cordis or mitral and aortic disease. Salicylates were used for rheumatic fever, and a favourite prescription for rheumatic heart disease was:

Tinct. ferr. perchlor.	..	..	..	m xv
Tinct. strophanth.	..	..	..	m iv
Glycerin.	..	..	..	m xv
Aq. chlorof.	..	..	..	ad 3ss
t.d.s. post cibos.				

Some vivid progress notes are present regarding a child with rheumatic heart disease with failure. On January 9, 1893, it was noted that "five leeches were applied, but did not bite well . . . on two previous occasions, when the pulse and right heart were failing, great benefit was obtained by injecting

Liq. strychnin.	..	..	..	m iii
Vin. gallici	..	..	..	m xx."

On February 4: "Child had an attack of hurried breathing . . . and extremely weak flutter pulse. Was given hypodermic of strychnine and brandy, amyl nitrite also to inhale, and improved. . . . At night she had another attack, and was leeches on the right heart. In the morning 260 oz. fluid aspirated from abdomen with much benefit." July 1: "Discharged. A well-marked systolic and presystolic bruit at apex conducted in to axilla and up toward base, where it gains again in intensity over sternum between second cartilages."

One lad is described with what was probably Fallot's tetralogy. A good account is given of his cyanosis, clubbing, and precordial murmur.

The case of a boy of 9 years with chronic diarrhoea is mentioned: "Two years ago he had measles, and diarrhoea ever since . . . up to ten motions daily—very offensive. Vomiting during the last two years—wasting. . . . Pale and rather wasted child . . . the abdomen is distended and doughy: skin inelastic. Nothing abnormal felt . . . the thumbs and great toes are in the position of tetany." This may well have been a case of coeliac disease, as it was recognized at the time not to be tuberculous peritonitis.

The only surgery noted is rib resection for empyema. The anaesthetic used was chloroform, and from the accounts it appears to have been quite satisfactory. The average stay in hospital for a case of empyema with rib resection was two to three weeks, although some cases were kept in the ward or a convalescent home for a few months.

It is interesting to note that in nearly every family at least one child had died; for example, a boy of 9 admitted

with influenza: "Three brothers and sisters died of diphtheria and one at 14 days of weakness." A boy of 2 was admitted and died of rickets: "Eight other children, of whom five were dead." Girl of 8 with pneumonia: "Third child of seven, all but this and one other died when babies with convulsions and diarrhoea."

Analysis of Morbidity and Mortality

The figures and statistics in this section have been obtained from three sources: from the annual reports of the resident medical officer for 1885-7 and 1893-1925; from the in-patient register for 1937 and 1938; and from case notes for 1949-51. In this analysis all tonsillectomy admissions have been excluded.

Total mortality figures are shown in Fig. 1. An interesting feature is the gradual decline in mortality after the first world war to a very low level in 1937-8.

FIG. 1.—Mean mortality rate.

Study of the morbidity and mortality figures over the years in question reveals much that is well known, and perhaps a little that is not so well appreciated. Therefore only a few conditions are dealt with in some detail, in order to illustrate points of interest.

Pneumonia

The number of admissions of all forms of respiratory diseases has tended to remain constant, usually in the region of 20-30% of all cases admitted to hospital. Pneumonia commonly accounted for just over half of all patients admitted with respiratory diseases. Mortality figures in pneumonia are dealt with under different age groups. Fig. 2 illustrates the mortality in infants under 2 years, and Fig. 3 in children of 2 years and over. In children over 6 years pneumonia has a negligible mortality. In this age group,

FIG. 2.—Pneumonia mortality in infants under 2 years.

FIG. 3.—Pneumonia mortality in children aged 2 years and over.

from 1893 to 1905 the mortality was but 5%. This illustrates the observations of Dr. Eustace Smith, who, in his book *On the Wasting Diseases of Infants and Children*, published in 1876, writes as follows about lobar pneumonia: "Primary croupous pneumonia requires little medicine: the treatment should be rather directed to ward off disturbing influences than by injudicious meddling to interfere with the course of the disease, the tendency of which is to recovery." In the early years R.M.O.s constantly emphasized the difference between croupous pneumonia and bronchopneumonia. Babies with bronchopneumonia often had a mortality as high as 80%.

Already, prior to the antibiotic age, pneumonia in children of 2 years and over had ceased to be a killing disease; but in infants under 2 it still had a high mortality. In this group it was commonly 40-45%, with a peak during the influenza epidemic of 1918. After the first world war the mortality declined to half its previous level, and in the antibiotic age the mortality from pneumonia in infants is virtually nil.

Gastro-enteritis

This is almost entirely a disease of infants under 2 years, 100 to 200 cases having been admitted annually. The disease was always referred to as summer diarrhoea, and was more prevalent in hot summers. The largest number of cases on record (253) were admitted in the year 1911, in which the summer was the hottest ever known. In that year the R.M.O. writes: "With the extreme heat of summer came a correspondingly heavy outbreak of infantile diarrhoea. Both in extent and severity the disease was considered by those longest connected with the medical wards to be exceptional."

The mortality rate of gastro-enteritis in infants is shown in Fig. 4. In nearly every annual report the R.M.O. commented on gastro-enteritis and its inevitably high mortality. "It may be noted that the mortality in 164 cases of epidemic diarrhoea treated in the year 1906 is 46.3%. This compares

FIG. 4.—Gastro-enteritis mortality in infants under 2 years.

favourably with the death rate of 57.8% in similar cases treated in 1905." In the past three years the mortality has been greatly reduced, and in fact the disease seems to be dying out, the summer epidemics having already ceased by 1937.

Whooping-cough

In 1896 the R.M.O. writes: "For about twenty years successive resident medical officers had hoped that whooping-cough wards might be added to the hospital... whooping-cough is stated to be the third most fatal disease in childhood, the annual mortality from this cause in Great Britain being over 190,000. Patients suffering from this disease are not admitted to the fever hospitals... I hope that means may be found of finding beds for some of these unfortunate children."

Some nine years later a whooping-cough ward was opened, and thereafter R.M.O.s continually noted in their reports the high mortality in infants. In the years 1905-9 there were 289 cases of whooping-cough in infants, 129 of which were fatal.

Diphtheria

Half a century ago this was a very common disease, accounting for about 10% of all admissions. Most of these were transferred to isolation hospitals, but of the more severe cases, those that were unfit to be moved, some 20 a year died here.

The disease occasionally spread to the staff: "During the year (1893) three nurses and a ward maid contracted diphtheria, but in each case recovered. A laundry-maid also contracted the disease, which I regret to say proved fatal." Antitoxin therapy was introduced in 1898: "In several cases of very severe laryngeal diphtheria, the injection of antitoxic serum, I am convinced, prevented operative interference."

Miscellaneous Conditions

Typhoid fever, congenital syphilis, infantile marasmus, rickets, and urinary calculi, formerly all very common, are now very rare. Infantile tetany has almost disappeared, and the last case of laryngismus stridulus was seen as far back as 1910. The first case of coeliac disease was recorded in 1901. Then there is a lapse of some 20 years before two further cases were so diagnosed. Its incidence increased, but latterly the disease has again become uncommon, and in the past three years only seven cases of coeliac disease have been diagnosed at this hospital, whereas nine cases of fibrocystic disease of the pancreas have occurred.

Tuberculosis is decidedly less frequent, and the incidence of rheumatic fever and chorea appears to be decreasing. Both the incidence and the mortality of pyogenic meningitis are much lower. The serious blood dyscrasias have always been rare—even recently; and, interestingly enough, clinical scurvy has always been very uncommon—only two or three cases having been admitted annually in the early part of this century. Diabetes has also been consistently rare.

With regard to some surgical conditions, pyloric stenosis was first diagnosed at necropsy in 1901. The first operative recovery was in 1909. Intussusception had a mortality rate of about 30% before the first world war. Thereafter it gradually declined until in 1937–8 it was virtually nil. It is interesting that for the past 60 years the annual incidence of intussusception has remained fairly constant. Appendicitis was first recorded in 1897 (four cases—no deaths). Prior to this it appears to have been diagnosed as typhlitis and perityphlitis.

The incidence of otitis media remained fairly constant over the past 50 years, but mastoiditis has decreased sharply since 1937. Admissions for tonsillectomy, however, remained constant at 300–450 from 1921 to 1951. The first note on tonsillectomy was in 1911, but adenoidectomy was recorded in 1893. Osteomyelitis was previously common, 20–30 cases a year being admitted. In the past three years there have been only three cases of osteomyelitis.

Summary

An account is given of the history of the Queen Elizabeth Hospital for Children in the East End of London, of its associations with Dr. Eustace Smith, and of some of his writings.

Records of morbidity and mortality have been found from 1893 to 1925. These have been studied and contrasted with similar records from 1937 and 1938, and with records from 1949, 1950, and 1951. These show some of the changing patterns of diseases of childhood over the past 60 years.

We should like to thank the consultant staff of this hospital for their interest, and Dr. I. M. Anderson in particular for making available to us the early publications of Dr. Eustace Smith.

CLINICAL FORUM AT THE CIBA FOUNDATION

OSTEOARTHRITIS OF HIP

The second of a series of informal discussions on controversial clinical problems was held at the Ciba Foundation on July 1. With Dr. BASIL KIERNANDER in the chair, Professor J. TRUETA opened a discussion on the treatment of osteoarthritis of the hip. He had believed until recently that in this condition pain, sclerosis, and ischaemia went together. Recent work at Oxford, however, had shown that there was a hyperaemia of the femoral head in this condition, which, he believed, followed a disturbance of weight-bearing in this region. The main causative factor in osteoarthritis was probably a defective blood supply to the articular cartilage. Osteoarthritic changes were first noticed in the non-weight-bearing part of the head upon which intermittent pressure was not exerted. This, Professor Trueta thought, was essential for the proper nutrition of cartilage in the hip-joint. The success of any operative procedures employed would depend upon the extent and success with which the hyperaemia was reduced and the weight-bearing corrected.

Mr. K. I. NISSEN felt that Professor Trueta's work would simplify the whole problem of surgery of the osteoarthritic hip, and after reviewing the various procedures available concluded that in England there should be a return to those of the simpler type. Dr. H. A. BURT pointed out that osteoarthritis of the hip was by no means always accompanied by symptoms: in 100 necropsies 60% of the cases were found to have arthritic changes, but only 3% were known to have had symptoms. The physician could help by: (1) relieving pain (often analgesics are not used sufficiently); (2) increasing mobility; (3) increasing muscular development; (4) improving function by the use of appliances and trick movements; and (5) correcting posture. It was important to treat the patient as a whole and not the pain. When symptoms got out of control and the patient went rapidly downhill despite a full physiotherapeutic regime, then it was time to pass the patient to the surgeon.

Operative Treatment

Mr. JOHN CHARNLEY, speaking of monoarticular osteoarthritis, said that he now used a central displacement type of arthrodesis in which the head of the femur was passed through into the pelvis, with the femoral neck taking the weight directly from the acetabulum. Where the aim was having bony union he also used a screw compressor. However, bony union was poor, and fibrous ankylosis was the usual result. With this operation the hip was painless, and a plaster spica was needed for only four to six weeks. The result of fibrous union appeared to be as good as that of osseous union. Since the femoral neck was placed through the acetabulum, external rotation was prevented, only a short hip spica was needed, and knee mobility was retained.

In the discussion which followed Professor TRUETA said that he considered that both unilateral and bilateral cases were mechanical in origin to the extent that the cartilage was not up to its responsibility. Mr. Charnley's operative successes he thought were due to reduction in the hyperaemia following the correction of mechanical errors. Procaine injections he considered relieved the pain by reducing the hyperaemia. The emphasis in physical medicine, which at the moment was placed upon the muscles, should rather be upon the cartilage.

Dr. E. G. L. BYWATERS thought that the blood-vessel response was not necessarily primary and that the earliest degenerative change in the cartilage was where the cartilage itself was at fault. Mr. W. A. LAW thought that conservative methods must have the first place in the treatment of this condition, but that few patients had the benefit of a regime such as Dr. Burt had described. Arthroplasty must still have a place in the treatment of bilateral cases where the patient through necessity must remain fully mobile. The