

urine is excreted. Under such circumstances, pure blood or blood clot may be passed through the mouth of the ureter, or pus may escape in putty-like bands which issue slowly from the ureter.

When haemorrhage takes place into the pelvis of the kidney, and the blood is retained there for a considerable time, it becomes so altered that it does not mix freely with the contents of the bladder. When it passes from the ureter it may appear like a ribbon or band of melted red wax, which flows slowly from the mouth, and, after it has attained a certain length, breaks off and floats away.

ERRATUM.—In the BRITISH MEDICAL JOURNAL for March 24th, p. 665, col. 2, line 17 from bottom, the words, "includes 75 per cent. of a circle" should read, "includes 75 degrees of a circle."

THE PROGNOSIS IN POSTERIOR BASIC MENINGITIS.

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POSTERIOR basic meningitis is by no means so rare a disease as is generally supposed. It accounts for one-third of all the cases of meningitis which occur among the in-patients at Great Ormond Street Hospital—133 out of 396 consecutive cases. Some account of the general prognosis in this disease, therefore, may be useful, the more so since there is no illness in which it is more difficult to forecast the future. This difficulty arises in chief from the frequency with which the inflammatory exudate interferes with the circulation of the cerebro-spinal fluid, giving rise to some degree of hydrocephalus. The symptoms of concealed hydrocephalus have been described elsewhere.¹ They were divided for purposes of description into four groups.

1. Sudden death; relapse; sudden attacks of vomiting, headache, and pyrexia.
2. Convulsions; insanity.
3. Paralysis; retarded development.
4. Inability to gain flesh, headaches, incontinence, peculiarities of temper, morals, or emotions.

There are, however, certain other sequelae which cannot be ascribed to hydrocephalus, which must be considered in some detail before we proceed to a general survey of the prognosis.

Amaurosis without Optic Neuritis.

This is the most remarkable of these. Carr² does not mention this condition. Lees and Barlow³ say: "Although optic neuritis is rare yet blindness more or less complete is not uncommon," and they cite cases. Stephenson in 1902 reported from the Royal London Ophthalmic Hospital 4 cases of "fleeting amaurosis in infants presenting symptoms of meningitis."

In more than one-third of my cases the child was either blind, or its power of vision was uncertain at some period of the disease. Of these, over 60 per cent. were under 6 months at the time of onset of the disease, showing that the condition is more common in younger patients. The oldest child was 2½ years. In most instances the blindness begins insidiously. In half my cases it was not recorded until more than a month after the disease set in. Generally the condition endures for a few weeks—from three to six weeks; sometimes it lasts much longer. In 3 cases it was present ten months, one year, and two years respectively, but the following history presents my most remarkable example of the condition.

CASE X.—Aged 3 months. He "fell out of bed and injured his brain." In the next five weeks he had nine fits. A week after the fall he was found to be blind. He was an in-patient in three London hospitals. He remained blind for five years, and then sight gradually and completely returned. Two years later, at the age of 7, he began to talk. My own notes say: "Age 10. Can't walk. Legs slightly spastic. Big, healthy-looking boy. Idiot. Very hilarious and good-tempered. Vision normal." There was evidence in the old notes of an early hydrocephalus which became arrested.

Vision returns gradually. In one case two years after the illness the mother told me that, although the sight was perfect usually, yet "when the child is indisposed vision seems blurred." Stephenson gives an almost identical description. Six months after the attack "the sight seems to fade away when the baby is poorly." The fundus oculi is usually pale, but otherwise normal.

The condition is often referred to the excessive intracranial pressure so commonly found. The following facts militate against such a view:

1. There was other evidence of hydrocephalus in 29 per cent. of these cases, as against 36 per cent. of all my cases of posterior basic meningitis.

2. Blindness sometimes begins long before there is reason to suspect increased pressure—for example, Case IX became blind immediately after the onset of the disease. Eight months later the head was first noticed to enlarge.

3. The amaurosis disappears, although the hydrocephalus may be progressive.

4. The condition is not included in descriptions of chronic hydrocephalus.⁴

The condition is probably never permanent. In only one case, which I was unable to trace, was the amaurosis persistent when the child was last seen.

Optic Neuritis.

Optic neuritis does undoubtedly occur in posterior basic meningitis, but it is very rare. In many cases there are ill-defined appearances of some change in the fundus insufficient to warrant a diagnosis of neuritis. A necropsy of a case in which optic neuritis and retinal haemorrhages occurred is described in vol. xv of the Great Ormond Street records. It occurred in only one undoubted case in my series⁵; the boy's general condition, seven months after the attack, was steadily improving, but he remained totally blind.

Pseudo-glioma.

Lees and Barlow⁶ describe one case; another has been recently recorded by Dr. Blaber.⁷ I have two instances to add.

CASE LXXXIX.—The child was an out-patient, and the notes are scanty. About the third week, the right eye became affected. "Mr. Lister and Dr. Batten are agreed that the condition is probably a mild degree of pseudo-glioma." A year later vision is normal.

CASE XXXVIII.—Aged 1½ years. An illness which was probably posterior basic meningitis. At the age of 2 years and 3 months he was admitted for fits and blindness. Well nourished; head retracted; legs strongly adducted. Whilst in hospital hydrocephalus rapidly developed. Note by Mr. Lister: "In my opinion there is undoubted chronic iridocyclitis (pseudo-glioma)."

Deaf-mutism.

Apparently this condition is rare. Its frequency is apt to be overrated because it is quite common in certain epidemics of cerebro-spinal fever. I have found only two cases, of which one (Case XXIX, loc. cit.) developed the condition after several operations for subdural drainage.

CASE XXXIV.—Aged 2½ years. Posterior basic meningitis. At the age of 2 years and 10 months, in hospital, "comparatively well, but is not sane; her memory is gone; she does not know her people; she is dirty in her habits; her mother thinks she does not see at all. The child is an idiot." At the age of 6 years and 10 months the father writes, "I am pleased to state she enjoys the best of health, and appears to have all her faculties. I am sorry to say she cannot speak, and her hearing is very dense."

Insanity.

Insanity is not very uncommon, and it often lasts for some months. Consequently the patient is often sent from the hospital *in statu quo*, and this has given rise to the idea that the condition is not rarely permanent. I have records of three such cases where the child ultimately became quite sane. My only permanent cases are the idiot child described above (Case X), and another who had frequently recurring fits during the two years that she survived (Case XXX, loc. cit.).

General Prognosis.

Out of 133 cases in which the diagnosis of posterior basic meningitis was made, 43 were sent out of hospital alive. This does not indicate that one-third of all the cases recover, because:

1. The more severe cases are more commonly sent to hospital.
2. Mild cases are treated in the out-patient department.
3. Many of those who are sent out alive die subsequently.

Probably the survivors of the original illness number considerably more than 1 in 3, whilst in distinctly less than one-third of all cases can ultimate recovery be expected.