ACUTE HEAD INJURIES.*

By Colman Byrne.

My choice of subject for to-night's Address has been influenced by a number of factors: head injuries are admittedly difficult of diagnosis, uncertain of prognosis and call for especial skill in their management and treatment—all factors which contribute to the fascination of this particular field of surgery. Furthermore, at a time when the basic allowance of petrol has been increased for all the likelihood of a marked increase in the incidence of such injuries should render the consideration of the subject peculiarly apposite.

There is a very good old axiom to the effect that "No head injury is so trivial that it should be neglected, and none so bad that there is no hope of recovery." Let me cite two cases to illustrate its verity:

The first, that of a dazed man with an abrasion on the forehead the result of a fall off his bicycle. Seen two days later, he had a temperature and signs of meningitis. Despite rigid treatment he was dead within five days of the accident.

The second, that of a boy of six years who had been kicked on the forehead by a horse. The local doctor who saw him said: "He will be dead in a couple of hours, as his brain is coming out." Brain matter actually was extruding through the wound. As the boy was still alive the next day, he was sent to the County Hospital, where he was kept for another 24 hours. He arrived at the Richmond Hospital on the fourth afternoon after the accident. Examination revealed a conscious boy with a lacerated wound extending from above the right eye upwards and across the middle line for about three inches. X-ray films showed a fragment of bone lying on the base of the skull in the anterior cranial fossa. This fragment had actually been kicked from the vertex of the skull. Operation under local anaesthesia was performed. The meninges were found torn, the brain matter in the wound was sucked away, the piece of bone was removed and a drainage tube inserted down to the dura mater. Prontosil was given. Six weeks later, after a stormy convalescence, the patient left hospital. Seen six months afterwards, he was found in excellent health.

The diagnosis of all head injuries may be summed up in a few words. Watch the patient! The person who watches his head injury cases carefully will very seldom be caught out. Have some method in the examination of these cases and, above all, keep accurate records of the patient's condition from time to time. It is amazing how often I have seen a case of head injury admitted to the Richmond and have been wholly unable to elicit information from anyone as to what had been the condition of the patient's mind from the time of injury until his admission to hospital. In the majority of cases the diagnosis of head injuries depends on noting the progress of the patient rather than the condition one finds at any individual examination.

Why are Head Injuries so Difficult?

1. Because the brain is enclosed in a rigid box.
2. Because the brain is a complex organ.
3. Because the patient may show very few signs of brain injury at the time of the accident. The patient with a head injury may appear normal, may even carry on work for some time, and yet be dead within a few hours.

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Example:—A mother, whilst bathing her children, tried to close the bathroom window. This came out with the pull, and she fell back, hitting her head against the wall. She continued working and put her children to bed. One hour after the accident, she got a headache, went to bed and vomited once. In another half hour she was unconscious. Her medical adviser was called in, gave her some injection and said he would come back in an hour. When he returned, he decided to send the patient to hospital. At the hospital the house surgeon, seeing that she was unconscious as a result of a head injury, sent her to the Richmond. As she arrived in the ambulance, she stopped breathing. Artificial respiration was applied. We decided that she must have an expanding lesion inside her skull, but in spite of decompression she died. She had a frontal extradural haematoma.

What do we learn from this case?

(1) The patient was apparently normal immediately after the accident, then went rapidly down-hill, with signs of a progressive intracranial lesion, viz., vomiting and headache. This was the time to move the patient. Do not wait until the patient is unconscious; delay so often means impending death.

(2) The receiving hospital should have been informed of what drug the patient had received by injection.

(3) The house surgeon was correct in transferring this case to a hospital equipped to deal with head injuries. Adequate treatment of such cases calls for special equipment and skilled nursing. But what of the risk of moving such a patient? Of course, there is a risk but it is decidedly less than that of operation in a centre where equipment is inadequate and nursing not specialised. Recent experience has proved that head injuries travel well.

Example:—A young man, aged 22 years, struck a wall while cycling, was knocked out for a short time, then after fifteen minutes walked home, pushing his bicycle. An hour after arriving home he complained of a headache, started to cry and retired to bed. He was admitted to a hospital some short distance from Dublin four hours after the accident. One of the surgical staff saw him at 3 p.m., and found him with a headache and a little drowsy. He put the patient on an hourly temperature and pulse chart and ordered MgSO₄ per rectum. The patient remained in this condition until next morning, but during the night he wet the bed. At 11 a.m. next day the patient became more drowsy, and then it was noticed that a haematoma had arisen in the scalp on the right frontal region, crossing the middle line and running backwards parallel to and near the sagittal plane on the left side. I saw the patient at 2.30 p.m. and on examination found him lying on his left side, head flexed, knees drawn up and eyes closed. He responded to painful stimuli and answered his name, but had no idea what was wrong or where he was, and like a famous film star "wanted to be alone". He presented a right-sided hemiparesis with positive Babinski; on the left side the Babinski was doubtful. Radiograms showed a linear fracture of the vault crossing the middle line.

The clinical signs and the progress of the case indicated an intracranial haemorrhage, probably middle meningeal, but as the fracture was crossing the middle line I thought that he might have a small tear in the superior sagittal sinus. Operation was indicated, but I frankly admitted to the medical men in charge that it would be dangerous to operate unless in a special department. They, I must say, appreciated the difficulty, and so we decided to move the patient. We informed the relatives of this, and they enquired about the risk of such a procedure. There was grave risk, but I can now say, having seen the inside of that boy's head, it would have been impossible to control the bleeding on the table had he been operated on in a theatre not specially equipped for neurological work. He had sustained a very large fracture with extradural haematoma, the bleeding coming from a branch of the middle meningeal artery near the base of the skull and from a vessel near the superior sagittal sinus.

Classification of Head Injuries (Fig. 1).

1. Scalp Wounds
   - Abrasion
   - Incised
   - Lacerated
   - Avulsed

| A. Without intracranial injury. |
| B. With intracranial injury. |