CASE REPORTS AND TECHNICAL NOTES

MOVABLE FOREIGN BODY WITHIN THE CEREBRAL VENTRICLE

A CASE REPORT*


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That metallic foreign bodies within the brain tend to shift position has been known for many years. In 1916 Vilvandre and Morgan§ reported two cases, showing prints of X-ray films demonstrating movement and rotation of foreign bodies within the brain. No attempt at removal was made in either case and death ensued. Jefferson§ had reported the case of an individual shot during the Russian Revolution in whom a rifle bullet which had lodged in the cerebellum moved posteriorly and underwent spontaneous version. Removal of the bullet was carried out 24 days after the initial injury and the patient recovered. Campbell, Howard and Weary§ reported the case of a woman who had a freely movable lead buckshot in the left lateral ventricle. Removal was carried out a number of days after injury following an episode of severe headache, vomiting, stiff neck and photophobia. The patient completely recovered. Dandy§ mentioned one instance in which a bullet was suspended by a fibrous band within a lateral ventricle. He stated that the symptoms were so severe as to make removal of the missile imperative, but the nature of the symptoms was not given. He also stated that "a bullet may lie unattached in a ventricle and move freely," and showed a picture of such a bullet which was removed through a ventriculoscope. Small§ reported an instance in which a revolver bullet migrated backward through the left ventricle and came to rest in the substance of the left occipital lobe. Removal was not carried out since there was no symptom which would indicate the necessity for such a procedure.

The following case report illustrates well the rather free migration which a metallic foreign body within a lateral ventricle may undergo and also demonstrates that severe symptoms may be associated with the presence of such a foreign body. This report, however, will constitute chiefly the surgical record, and detailed studies of the neurologic, psychiatric, and metabolic disturbances will be the basis for subsequent detailed communications.

CASE REPORT

B.R.M., a 22-year-old platoon sergeant, U.S.M.C., was admitted to the U.S. Naval Hospital in San Diego on April 26, 1945 because of symptoms resulting from an injury sustained in an amphibious operation on June 22, 1944. While going ashore during the establishing of a beach head, he sustained several fragment wounds from the explosion of a Japanese shell, the major wound being situated in the right parietal region about 2 cm. above the right ear. According to the records, he was immediately unconscious and in shock. At an aid station on the beach, the shock was treated, the wounds were dressed and he was evacuated to an off-shore transport for further treatment. Upon arrival in the transport, he was still comatose but would occasionally move all of his extremities and his general condition was satisfactory. During the next 72 hours, he regained consciousness to a point of being able to obey simple commands and take fluids and food by mouth, but he remained disoriented and irrational. Upon arrival at an advanced Naval Base Hospital on July 3, 1944, he was acutely

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ill. His pupils were dilated and fixed, and there was an obvious left homonymous hemianopsia. Although the external wound was healed, his temperature was constantly elevated. Periods of rationality were interspersed with episodes of complete irrationality during which he would talk almost ceaselessly of irrelevant matters.

X-ray examination of his skull (Fig. 1) revealed a large piece of shrapnel located in the superior portion of the right occipital lobe about 2 cm. to the right of the midline (Fig. 2). Three days after admission there was a sharp rise in temperature accompanied by increasingly severe headache, stiff neck and stupor. Spinal puncture revealed cloudy fluid at 300 mm. of pressure but no record of the cell count or culture was recorded. He was treated with penicillin intramuscularly and by the end of 6 days, the acute symptoms had all subsided. Twelve days after the episode of acute symptoms, spinal puncture revealed xanthochromic fluid with initial pressure of 230 mm. of H₂O and 10 days later the pressure was normal and the fluid was clear. He was evacuated to a U.S. Naval Hospital on the continent, arriving there on Aug. 22, 1944 and at that time, he was able to recall being carried to an aid station immediately following the injury but with this exception, he was completely amnesic for all the events following his injury except for a few isolated instances during his stay in the advanced Naval Hospital and the voyage to the mainland. He knew his name but he was unable to give his age, or his serial number and was unable to recall many of the events of his life prior to being wounded. He complained of constant headache and was unable to read because of marked diminution in vision. He had developed ataxia and a coarse tremor of both hands and arms, was incontinent of urine, and his mental status was described as showing blunting, retardation and deterioration with impaired insight and judgment.

Gross tests revealed a left homonymous hemianopsia and visual acuity was 8/20 right and 4/20 left. X-ray films (Fig. 3) showed that the metallic foreign body was now immediately above the sella turcica. With the exception of the fact that he had developed a large appetite and was rapidly gaining weight, little change was noted in his condition until Oct. 10, 1944 when he complained of very severe headache followed very shortly by a generalized convulsion. Spinal puncture done shortly after the convulsion revealed opalescent fluid with increased globulin and cell count of 1700; 22 of these cells were lymphocytes. For several days there was marked elevation of temperature but under intramuscular penicillin by Oct. 18, 1944 his temperature was normal and spinal fluid clear. X-ray film made about this time