CHRONIC OR SUBACUTE SUBDURAL HEMATOMA DUE TO INDIRECT HEAD TRAUMA

REPORT OF TWO CASES*

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Practically all cases of chronic subdural hematoma are due to some type of direct head injury. Grinker's well epitomizes most modern accounts of the lesion under consideration in his book: "Chronic subdural hematoma occurs after head trauma with severe skull fracture, or very mild concussion. Alcoholism and psychosis, conditions which afford frequent opportunities for head injury, are predisposing causes."

Cases of chronic or of subacute subdural hematoma not due to a direct blow on the head appear to be rare, or at least a survey of current literature having to do with a consideration of head injury in all its aspects, or to neurology and neurosurgery in general, would lead one so to believe. In a careful survey of the world's current medical literature as listed in the Quarterly Cumulative Index Medicus for the past 10 years, only a single instance of a chronic subdural hematoma due to indirect trauma was encountered and the mode of the indirect injury was not given in the title of the paper, which was inaccessible to the writer. Likewise, in a thorough review of a number of recent books on neurology, neuropathology and neurosurgery, including two devoted entirely to head and spinal injuries, only one reference to chronic subdural hematoma from indirect trauma (not including the head) was encountered: Loyal Davis mentions a fall on the buttocks as the only known trauma in certain cases of chronic subdural hematoma. He refers to this type of injury in general terms in a discussion in his book of the causes of chronic subdural hematoma, not detailing a specific case. It happens that the 2 cases to be described in this paper were due to this etiological factor. Neither patient was an alcoholic or psychotic, and both were highly intelligent, so that an accurate history with respect to trauma of any kind was possible in each of the two cases. It seems certain that neither of the patients had a direct blow on the head in the immediate or remote past before being admitted to the hospital for operation. This was determined by repeated questioning of the patients and their families. Both patients had a fall on the buttocks as the precipitating factor in the production of symptoms and signs due to a chronic or subacute subdural hematoma.

This is of considerable interest as it is generally believed today that this lesion in adults is almost invariably caused by a direct blow on the head, usually in an anteroposterior direction, thus tearing one or more of the short communicating veins between the dura and the cortex near the falx, resulting in a subdural hematoma.

There are, of course, reports of subdural hematoma scattered throughout the literature of the last decade or more describing its development in children or adults with no definite traumatic history, that is, spontaneous in type, the clot being ascribed to scurvy, blood dyscrasia, meningitis or other intracranial infection, etc.

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Wechsler\(^5\) and others\(^1,2,3\) refer to certain subdural hematomas occurring after blast injuries up to 100 ft. distant on the ground or even under water, in which there had been no direct head injury except by the pressure wave. Peet\(^1\) quotes Grant's case caused by the relatively mild trauma from ocean breakers while surf bathing. None of these rarer causes of subdural hematoma was an etiological factor in the 2 cases to be reported in this paper.

**CASE REPORTS**


The patient, a heavy large woman, had fallen down a flight of 6 steps while visiting her daughter's new home, the steps of which had recently been polished. She was a known hypertensive. Her feet slipped from under her and she came down rather violently in a sitting position. She did not strike her head at any time. She felt no immediate ill effects. She was not rendered unconscious, even momentarily, at the time of the fall. Within 4 hours of the accident, however, she had severe headache (frontal), associated with drowsiness, nausea and vomiting. She became disoriented and mentally confused. Within 15 hours of the accident, weakness of the right upper and lower extremities was noted. Within 2–3 days of the injury, blurred vision and diplopia supervened. The right leg was definitely weaker than the right arm. She was aphasic when admitted to the hospital 9 days after injury. Fortunately, she was left-handed.

**Examination.** B.P. was 200/120, T. 99° F, P. 56–60/m. R. 18/m. She was drowsy but responded fairly satisfactorily to questioning. Motor aphasia was obvious. There was bilateral choked disk of moderate degree, more marked on the left. The right leg could not be flexed at the knee. The right arm was also weak but less so than the leg. Skull films showed the pineal gland to be deflected to the right and downward, suggesting a left-sided space-occupying lesion.

**Operation** (novocaine anesthesia) on day of admission. Bilateral superior temporal burr openings were made: the one on the right side showed the brain to be firmly approximating the dura. On the left, a typical subdural hematoma was encountered and evacuated by means of a subtemporal decompression. The clot was dark and tarry in consistency and amounted to at least 3 ounces. The brain was slightly contused on the surface just above and posterior to Broca's area.

Her postoperative course was somewhat stormy, characterized by considerable fever, and the development of auricular fibrillation, which responded to digitalis. For 2 weeks at least, the aphasia and weakness of the right side were more marked than before operation. Recovery thereafter was slow but steady. The wounds healed per primam and no further operative procedures were necessary.

**Follow-up Notes.** On April 28, 1950 (almost 3 months after operation) the patient returned in excellent condition. However, there was marked nominal aphasia. She could sing nevertheless, and protrude her tongue on command, which many aphasics cannot do. There was very satisfactory motor power of the right arm and leg, and no headache, vertigo or diplopia. She looked very well, and was cheerful and quite cooperative. On July 25, 1950 (almost six months after operation) her condition remained the same except for improvement in speech. There was no demonstrable weakness of the right arm and leg. The subtemporal decompression on the left side was flat (even concave) and she had no subjective complaints of any kind. She was actively engaged in her household duties.

**Case 2. Mr. L.B., 64-year-old assistant commissioner of agriculture. Admitted Mar. 20, 1950. Fall on buttocks several weeks previously; the accident almost forgotten. Left subdural hematoma removed in two-stage procedure. Discharged improved April 9, 1950. Early complete recovery without residual neurological deficit.**