Paraparesis with Incontinence of Bowel and Bladder
A Syndrome of Bilateral Subdural Hematomas

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The symptoms and signs of intracranial subdural hematoma are numerous and protean. In recent years, contrast radiography has proven to be of great value in diagnosis and localization. The purpose of this communication is to add one more note to the voluminous literature concerning this clinical syndrome: the significance of weakness of the lower extremities, combined with incontinence of bowel and bladder, as a manifestation of bilateral subdural hematomas.

Case Reports
Case 1. A middle-aged colored male was admitted to the neurological service of the Gallinger Municipal Hospital in 1951. There was a vague history of head injury and the patient was known to be a chronic alcoholic. However, the complaints and clinical picture did not suggest the presence of intracranial blood clot initially. In addition to mental confusion, the presenting physical findings were a paraparesis with incontinence of bowel and bladder. The gait was similar to that of congenital spastic diplegia. The spinal fluid was xanithrochomic with an elevated pressure. The suggestion of subdural hematoma was made but in addition a spinal-cord lesion also was considered. At eventual intracranial surgical exploration bilateral subdural hematomas were found and evacuated. The patient was discharged from the hospital after the usual postoperative convalescence.

Case 2. A 71-year-old white male began to be unsteady in gait, repetitive in conversation, and somewhat confused on March 19, 1962. It was his wife's opinion that he has "not been himself for several months." He was stumbling, falling to his knees and against furniture at his work as a freight agent, and during a short walk to his home. There was no history of headache. He exhibited incontinence of bowel and bladder. Later in the patient's hospital course, it was elicited that he fell on a slippery loading platform on Feb. 28, 1962, landing on his back and striking his head. He was dazed for a few seconds, but he was not unconscious. He continued to work after a friend assisted him to his feet.

His condition deteriorated and he was admitted to his local hospital on March 23, 1962. By this time he had intermittent confusion and disorientation, with incontinence of bowel and bladder. There was no complaint of headache, or any history of convulsions. He had severe weakness of both lower extremities, particularly of the right, moving the legs only with considerable concentration and exertion. Neither faciality nor spasticity was evident. His speech was slow and superficial, but clear, distinct, and without aphasia. No papilledema or anisocoria was present.

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His condition continued to worsen and he had a convolution. The temperature then reached 102°F., and he was transferred to the neurosurgical service of the George Washington University Hospital. On admission, the patient was cheerful, alert and not aphasic. He did not complain of headache. His pulse was 72 and regular. Blood pressure was within normal limits. There was severe and bilateral weakness of the lower extremities, more marked on the right. There was no loss of sensation and deep tendon reflexes, or voluntary motion of the legs when the patient was encouraged to move or stimulated noxiously. The upper extremities were not affected. The optic discs were flat, the pupils were equal, and the remainder of the neurological findings were normal. An electroencephalogram was diffusely abnormal.

The diagnosis of a vascular accident involving the spinal cord was considered until Case 1 was remembered. The family was then questioned and the history of the fall on Feb. 28, 1962 was obtained by us for the first time. A left carotid arteriogram was performed on March 29, 1962, and revealed a subdural hematoma (Fig. 1). It was not felt to be in the best interests of a man of his age to do bilateral arteriography.

At operation a burr hole was made first on the right side, contralateral to the positive arteriogram. A subdural hematoma, approximately 30-50 cc., was found and removed. The left side then was explored in similar fashion and an almost exact replica of the right-sided liquid clot was evacuated.

Although his postoperative temperature was elevated to 102°F., on the day following operation, his clinical course thereafter was benign. He was discharged from the hospital asymptomatic on the 9th postoperative day.

Discussion
Paraparesis with incontinence in the absence of headache and in the presence of an alert but confused mental state as a result of bilateral subdural hematomas was so impressive in Case 1 that this remembrance played a large part in the successful diagnosis of Case 2.

It is a neurosurgical truism that if a subdural hematoma is found on one side, the other side of the head must be explored because of the known high frequency of bilaterality of these lesions. Paraparesis associated with subdural hematoma is, of course, the rule when the size of the lesion and its effect upon the brain stem has progressed to a point where decerebrate rigidity is approaching and quadripareisis is present. To the best of our knowledge, the combination of paraparesis with incontinence of bowel and bladder has not
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been emphasized as a sign of bilaterality of subdural hematomas in a predecerebrate clinical stage.

A neurophysiological explanation would seem to be ready in view of the fact that Scarff and others have verified the "leg area" in the motor cortex to reside in the paracentral lobule of the motor-sensory cortex. Involvement of this area by a bilateral parasagittal meningioma or meningioma of the falx also will result in the knock-kneed gait of paraparesis with progressive paralysis if the condition is neglected. At the same time, there is interference with continence of bowel and bladder, the cortical control of which lies in exactly the same area as that of the motor cortical spinal tracts to the legs.

Summary

Two cases are presented of bilateral subdural hematomas manifested clinically by paraparesis and incontinence of both bowel and bladder. Headache, stupor and significant pupillary changes were absent in both patients. It is suggested that the combination of weakness of both lower extremities with urinary and fecal incontinence represents a syndrome characteristic of bilaterality of cranial subdural clots.

References

