EXTRADURAL CEREBELLAR HEMATOMA.
A CASE REPORT*

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The most interesting feature of cerebellar extradural hematomata for the neurosurgeon is their rarity. The diagnostic and therapeutic problems arising from this complication of head injury have been mentioned in the literature only during the past decade, and very few case reports have been published. All of the instances of this rare syndrome that have appeared to date have dealt with cases of acute cerebellar extradural hematoma. The following case seems worthy of record as the first account of a patient who suffered from delayed symptoms. Whether it should be described as a subacute, or as a chronic, extradural cerebellar hematoma is a debatable point.

CASE REPORT

Mrs. T.A., age 38, referred by Dr. R. Woodworth of Kimberley, B.C., was admitted to the Vancouver General Hospital on October 19, 1943. She complained of headache, diminished vision in the left eye, and unsteady gait. Her past and family history were not relevant. She led an active life as the mother of five children. Her symptoms commenced in December 1942, when she fell on some ice and suffered a blow across the left eyebrow which caused a deep laceration. She did not lose consciousness. Thereafter she continued to have periodic mild frontal headaches which were troublesome but not incapacitating. On October 6, 1943, nine months after the first injury, while stepping into a car she struck her left forehead forcibly against the edge of the car seat. There was no loss of consciousness and no local bruising. The following morning she noted pronounced blurring of vision in the left eye. During the subsequent week she felt rather drowsy and her headaches became severe. She also noticed slight unsteadiness of her gait. A lumbar puncture was done by her local physician one week after the second injury. He reported that the fluid was clear and initial pressure elevated to 230 mm. water.

Examination. She was a healthy appearing, somewhat obese woman. Urinalysis, red and white cell count were normal, and blood Kahn was negative. Blood pressure 145/90. General physical examination was not remarkable. Neurological examination revealed the following abnormal features: (1) Slight stiffness of the neck. (2) Pronounced choking of the left optic disc with scattered, fresh hemorrhages and exudate around the disc. Vision in this eye restricted to perception of light and gross movements in the left upper quadrant. Mild choking of the right optic disc with normal vision in this eye. (3) Slight incoordination of the right arm and right leg. (4) Diminished tendon reflexes in the right leg. (5) A tendency to stagger to the left when walking.

The evidence favoured a diagnosis of cerebellar tumour but localizing signs were not conclusive. Ventriculography was carried out. The cortex appeared slack through the routine bilateral occipital burr holes. A ventriculogram revealed an internal hydrocephalus of moderate extent. A few bubbles of air were seen to have passed through the aqueduct of Sylvius and lay on the left side of the cisterna magna. There was no evidence of fracture of the skull in the X-ray films.

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Operation. This was performed (assisted by Capt. P. Lehman, R.C.A.M.C.) on October 23, 1943, nine months after the first head injury and three weeks after the second. The cerebellum was approached by a vertical midline incision. A burr hole over the left cerebellar hemisphere disclosed normal dura; on the right side the burr hole disclosed a hematoma. Bone was removed from over this right cerebellar lobe and the right side of the arch of the foramen magnum. A round, friable clot about the size of a golf ball was uncovered. It lay over the center of this lobe. It was easily removed by suction and no fresh hemorrhage occurred. The margin of the clot was adherent to the dura but could be scraped off. The dura remained depressed. Removal of bone had not been extended out to the margins of the lateral sinus but did reach beyond the margins of the clot. The dura was not opened. The wound was closed tightly leaving a rubber drain leading down through a stab wound to the extradural space.

The drain was removed after 36 hours.

Course. She made an uneventful recovery and left the hospital on November 6, 1943, 14 days after operation. When re-examined on December 15, 1943, six weeks after operation, she complained only of some insomnia and occasional cardiac palpitation. There was no unsteadiness of gait and no evidence of incoordination of the right arm or leg. The outlines of the right optic disc remained slightly blurred with normal vision on this side. The left optic disc was flat and pale; vision for reading on this side was 70 per cent. This unilateral visual disturbance was still present five months after operation, and there was occasional soreness of the involved eye. Otherwise she was in good health.

DISCUSSION

The absence of any similar case reports in the literature may indicate that this case is a freak. There seems to be little need to establish a new clinical syndrome because the history and clinical picture of such a case would lead any neurosurgeon to explore the posterior fossa and apply appropriate treatment. An awareness of this unique lesion will probably enable some neurosurgeon in the future to arrive at the correct diagnosis before exploration.

It is of interest to note that only four cases of uncomplicated acute cerebellar extradural hematomata are on record. Two of these patients survived. In all instances the signs and symptoms of extradural cerebellar hematoma followed a head injury by a few hours or a few days and there was no doubt about the relation of trauma to the clinical picture. The only puzzle was the location of the traumatic pathology within the head.

In 1938 McKenzie discussed 20 cases of extradural hemorrhage and included in this group one case of extradural hemorrhage over the right cerebellar hemisphere. The patient was a child who sustained a slight head injury and after an interval of 30 hours became stuporous. The only abnormal neurological feature was marked flaccidity of all limbs. The child died 14 hours after onset of stupor during a fit which commenced on the right side of the body and was followed by opisthotonos. Necropsy disclosed a short fracture of the occipital bone and a cerebellar clot which was identical in size and position with the clot found in my case.

Coleman and Thomson described the case of a child, age 9, who fell striking the back of the head and was not rendered unconscious. Early observation of the patient disclosed no abnormal neurological signs. Twenty-four hours later he developed some headache and drowsiness but again the
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examination was negative. The drowsiness and headache with occasional vomiting persisted until 60 hours after injury. At this time the drowsiness increased, and examination showed stiffness of the neck, hypotonia of all limbs and areflexia. An X-ray film disclosed a long linear fracture in the midline extending into the foramen magnum. At operation a bilateral cerebellar extradural hematoma was removed and the patient recovered. Coleman and Thomson also reported an unpublished case observed by Mayfield. The patient was suspected of having a cerebellar clot but died before operation could be performed. Necropsy revealed an extradural cerebellar hematoma.

Kessel\(^2\) reported the case of a 24 year old girl who fell off her bicycle and struck the back of her head. She was unconscious for a few minutes but shortly after the accident complained only of severe headache. Neurological examination was negative. X-ray films showed a slight separation of the left half of the lambdoid suture. Thirty hours later she suffered a tonic fit which was repeated twice on the following day. A profound coma gradually developed. Lumbar puncture demonstrated a cerebrospinal fluid block. There was no hypotonia and reflexes remained active. Operation disclosed a clot that covered the dura over the left cerebellar hemisphere. The cistern was opened and fluid escaped under considerable pressure. Convalescence was complicated by a cerebrospinal fluid leakage which eventually ceased spontaneously. The patient recovered completely.

There are scattered reports in the literature of acute extradural cerebellar clots which were continuous with clots over the cerebrum. In those cases there had been stripping of the lateral sinus from the bone which provided an added source of bleeding, but the main clot was over the cerebrum. This communication deals only with extradural clots that are limited to the posterior fossa.

In the case which is herein reported the patient suffered two very similar head injuries. One of these injuries occurred nine months and one approximately three weeks before operation. The first injury was moderately severe, the second injury comparatively mild. Headache commenced after the first injury and was only aggravated by the second. The gross loss of vision in one eye, which was produced by choked disc, was apparent the first day after the second injury and signs of cerebellar dysfunction developed thereafter.

Subacute extradural hematomata over the cerebral hemisphere are uncommon, but not rare. Chronic extradural hematomata over the cerebrum, on the other hand, are distinguished by their absence. Presumably the large extradural clots either kill or are cured by operation, while the smaller clots are absorbed so completely that they cause no symptoms. If there is any analogy between extradural clots and traumatic clots found elsewhere in the body, e.g., in the muscles of the thigh, one would expect that, in some instances, absorption of the clot in the extradural space would leave a more or less well-vascularized pseudomembrane. Such a hypothesis is advanced to explain the case that is now reported. The original injury might have
established a vascular pseudomembrane outside the dura and subsequent injury caused re-formation of a gross clot.

Any further inferences do not appear warranted on the basis of a solitary case. It is hoped that publication of this story will serve to unearth other similar accounts, for it surely cannot be as unique as the silent literature would indicate.

REFERENCES