EXTRADURAL CEREBELLAR HEMORRHAGE

REVIEW OF THE SUBJECT AND REPORT OF A CASE*

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(Received for publication August 11, 1948)

EXTRADURAL hemorrhage confined primarily to the posterior fossa of the skull is an unusual lesion of considerable clinical interest. Hemorrhage of this variety arises from a tear in some portion of the lateral sinus precipitated by head injury, but trauma need not be sufficiently severe to cause immediate loss of consciousness, and fracture of the skull may be absent. As blood accumulates in the extradural space overlying the cerebellum, signs of obstruction in cerebrospinal fluid outflow appear and evidences of cerebellar dysfunction become manifest. It is the purpose of this paper to review the clinical features of this syndrome and to present the case of a patient with such a hemorrhage who recovered following operation.

SURVEY OF LITERATURE

McKenzie has recorded cases of extradural hemorrhage, one of which was confined to the posterior fossa overlying the right cerebellar hemisphere. In another case the clot covered the left occipital lobe as well as the left cerebellum, and in a third patient clot was found to cover the right cerebellar hemisphere and extend upward over the posterior two-thirds of the right cerebrum. In the first case the patient died unoperated upon; in the second, only the posterior fossa clot was removed and the patient did not survive; in the third, the supratentorial hemorrhage was drained but posterior fossa clot was not detected, and this patient also succumbed.

Coleman and Thomson reported 1 case of posterior fossa extradural hemorrhage in which the diagnosis was strongly suspected before operation. Three days after injury, cerebellar exploration was performed disclosing an extradural clot over the right cerebellum reaching to the left of the midline. The clot was evacuated and the patient recovered completely. Coleman mentions a case seen by Mayfield in which posterior fossa hemorrhage was thought likely, but the patient died before operation could be performed. Extradural clot over the cerebellum was found at autopsy.

Turnbull reviewed the subject of extradural posterior fossa hemorrhage and recorded a case of a woman who had sustained minor head injury with subsequent headache, then 9 months later a second injury, the latter precipitating drowsiness, blurring of vision, and unsteadiness of gait. Suboccipital craniotomy disclosed an extradural clot over the right cerebellar lobe. The clot was removed and the patient recovered except for mild visual impairment.

* Presented before the Neuropsychiatric Section, California Medical Association Annual Session, San Francisco, April 11-14, 1948.
Scoville, Kessel, and Watts each described 1 case of such hemorrhage, and in these 3 instances operation was carried out, all the patients recovering. Watt's case is unusual in that the cerebellar operation was performed immediately after bilateral subtemporal exploration failed to disclose extradural hemorrhage over the cerebrum.

In a survey of 34 extradural hemorrhages Gurdjian and Webster reported 1 case wherein the patient sustained a perforating wound of the head just above the lateral sinus, with formation of extradural clot over the cerebellum and occipital lobes. Evacuation of the clot resulted in prompt recovery. Munro and Maltby appraised their 44 cases of extradural hemorrhage and recorded 1 instance of posterior fossa clot discovered at autopsy.

Autopsy material comprising 504 cranial injuries was presented by LeCount and Apfelbach, who found 104 extradural hemorrhages of sufficient size to produce symptoms. Eight of these were associated with fractures of the posterior fossa, but it is not made clear whether the clot in these instances lay primarily over the cerebellum or over the occipital lobes. Vance made an extensive appraisal of 512 skull fractures at autopsy and found sizable extradural hemorrhage in 61 cases. In the clot was found over one or both occipital lobes as well as the cerebellum, and bleeding was found to have originated from a lateral sinus tear. In neither of the above autopsy studies is there record of clot confined to the posterior fossa.

REPORT OF CASE

J. F., a white girl 5½ years old, was admitted to Children's Hospital April 7, 1947. Twelve days previously she had fallen and struck the back of her head on a hard surface without losing consciousness. In the ensuing 4 days the child became lethargic and vomited frequently without nausea but did not complain of headache. During the following week she grew excitable, cried easily and tore her clothing, and at this stage the parents observed her eyes to be crossed.

Neurologic Examination. The patient was irritable, but lucid and fairly cooperative. Suboccipital tenderness was notable, more marked on the right side, and there was mild resistance of the neck to flexion. Bilateral papilledema, large pupils reacting poorly to light and convergence, and bilateral 6th nerve pareses were observed but nystagmus was not present. Although gag reflexes were normal the voice had a nasal quality and the soft palate was depressed, more so on the left than right. All extremities were moderately hypotonic and ataxic, the right arm and leg appearing slightly more unsteady than the left, and as the child walked she deviated fairly consistently to the right, holding her head inclined to this side. The deep reflexes were symmetrical and of small volume throughout; a Babinski sign was present on the left.

X-rays of the skull showed questionable suture separation but no fracture. Spinal puncture was not done. EEG tracings demonstrated phase reversal in the left occiput and were interpreted as suggestive of a deep-seated lesion below the left occipital lobe. On clinical grounds, intracerebellar hemorrhage and posterior fossa subdural hematoma were considered strongly in the diagnostic possibilities, but right cerebellar neoplasm was felt to be more probable than either of these.

April 10, ventriculography was performed through posterior parietal burr holes, 40 cc. of CSF being removed and replaced with an equal amount of air. This study showed moderate internal hydrocephalus, and forward dislocation of the 4th ventricle with narrowing in its anteroposterior dimension (Fig. 1).