ACUTE EXTRADURAL HEMATOMAS WITHOUT DEMONSTRABLE SKULL FRACTURES

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The occurrence of acute extradural hemorrhage in the absence of any demonstrable fracture of the skull is generally considered unusual. A recent experience with one such case following relatively minor head trauma (Case 5) has led to a review of our pertinent case material. The presentation of these data for comparison with contemporary experience as noted in the literature constitutes the principal purpose of this report.

CASE MATERIAL

There are 34 cases of extradural hemorrhage, predominantly of the middle fossa, treated by craniectomy or osteoplastic craniotomy with evacuation of the compressive clot since 1935 at the Massachusetts General Hospital. There were 7 deaths, or a surgical case mortality of 20.7 per cent. Two cases of extradural hematomas of the posterior fossa with favorable results following surgery are not included.

The distribution according to age and sex of the 34 cases reviewed is given in Fig. 1. Twenty-two patients were 16 years of age or older and with 1 exception were males. In all but 1 of these individuals fractures of the skull of various types were instrumental in the causation of the extradural hemorrhage. The exception was a 40-year-old chronic alcoholic who came to operation 3 days and 7 hours after injury and in whom a large clot of mainly venous origin was evacuated with a successful result. There was no fracture noted on the roentgenograms or at operation in this case.

In the remaining 12 cases the patients were 15 years of age or younger. There were 9 males and 3 females. Of the 6 children between 11 and 15 years of age, 5 proved to have large extradural hemorrhages without associated fractures demonstrable by radiography or at operation. These cases are individually described below.

CASE REPORTS

Case 1. A 14-year-old boy was struck in the left temple by a fellow football player's knee at 3 p.m. on Oct. 29, 1946. He was not unconscious but complained rather promptly of headache. By 7 p.m. he was unresponsive.

On admission to the hospital 2½ hours later he was deeply comatose and decerebrate, with dilated fixed pupils, the left being larger than the right. Roentgenograms of the skull revealed no fracture.

Operation at 10 p.m. on the same day disclosed a massive extradural hematoma
originating from the left middle meningeal artery, which was torn near the foramen spinosum. No fracture was seen at operation.

The patient failed to improve, and extreme peripheral vascular collapse and pulmonary oedema developed postoperatively. He expired after 24 hours.

Case 2. A 15-year-old boy fell from a tree and landed on his head at 8 P.M. on Oct. 30, 1949. There was no documented period of unconsciousness. He complained of headache thereafter, became drowsy, and vomited several times during the night. Over the course of the following day these symptoms progressed and by 7 P.M., 23 hours after injury, the boy became quite stuporous and confused.

On arrival at the hospital some 4 hours later, he was unresponsive to painful stimuli. There was a dilated fixed right pupil. Roentgenograms of the skull revealed no evidence of fracture.

Operation commenced 1 hour after admission disclosed a large extradural hematoma on the right originating from a major tributary of the middle meningeal artery. No fracture was found at operation.

Recovery was complete.

Case 3. An 11-year-old boy was struck in the right temple by a swing at 10:30 A.M. during school recess on Oct. 30, 1950. He was not unconscious, but complained of headache when he returned to class. By noon he was quite drowsy and complained of severer headache. At 4:30 P.M., following a convulsive seizure, he became comatose.

He arrived at the hospital in deep coma and decerebrate, with a dilated fixed right pupil, at 9 P.M. No fracture was seen on roentgenograms of the skull.

Operation carried out that same evening disclosed a large right extradural hemorrhage originating from a major branch of the middle meningeal artery. No fracture was found at operation.