SUBDURAL HEMATOMAS—SOME OBSERVATIONS ON THEIR POSTOPERATIVE COURSE

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The postoperative course in cases of subdural hematoma may be cause for great concern if not one of steady improvement. This concern is compounded by the completely benign nature of the responsible lesion. Repeating an air study or an angiogram is often inconvenient at the moment of doubt and re-exploration is done with considerable reluctance. During some of these anxious moments the idea arose of leaving a metal clip affixed to the cortical surface. This enabled a simple radiologic determination of the postoperative behaviour of the residual subdural space.

MATERIAL

Forty cases from the Winnipeg General and Children’s Hospital in which such a marker was placed after evacuation of blood were available for follow-up studies from 1950 to 1956. The ages of the patients ranged from 1 month to 75 years. The vast majority were under 1 year of age or over 50 years, showing an amazing sparing of the ages of maximal physical trauma. Of the hematomas, 33 had well developed inner and outer membranes and were considered chronic subdural hematomas. In some of these the date of onset could not be ascertained. The remaining 7 had no formation of membrane and were classified as acute subdural hematomas. In these 7 the time of onset was known and the interval from trauma to operation ranged from 1 day to 1 week. In the 33 chronic cases a flap was turned.

Immediately after evacuation of the clot or liquid blood the depth of the cavity was measured. After removal of membranes and irrigation a clip was affixed to the cortical surface prior to closing and an additional clip was placed in the dura mater directly above. The residual cavity was filled with saline and the dura mater was closed. Intrathecal injection of saline was not used in any of these cases.\(^1,2\) Roentgen-ray films taken the following day revealed the distance separating the two clips (Figs. 1 and 2). This distance was compared with distance measured immediately after evacuation at surgery (Fig. 3). If the postoperative course was satisfactory no further films were taken until discharge some 8 to 10 days later. If at any time the postoperative course was unsatisfactory, films were taken at that time and the distance of separation was compared with that in the immediate postoperative films. Should this depth have been greater it would have been an
indication for re-operating. In no instance was it greater, hence re-exploration was deferred and the subsequent course vindicated this decision. Additional films were obtained depending on the availability of the patient after discharge, usually from 30 to 60 days postoperatively.

Evacuation was effected through burr holes alone in the 7 acute cases. The surface of the brain re-expanded vigorously as the blood escaped and the depth measured at operation doubtlessly was considerably less than the original depth with the blood captive. Subsequent films were taken as in the chronic cases (Fig. 3).

RESULTS

In the cases of chronic subdural hematomas the films taken the following day indicated an immediate reduction of from 2 to 5 mm. in the depth of the residual cavity compared with the depth measured at surgery. To our