

Injured: 10 June 1943, apparently struck on head, circumstances unknown. At Ain-el-turck, Algeria.

Admission: 11 June 1943, direct.

Died: 16 June 1943, from subdural hematoma and intracerebral hemorrhage due to injury.

This patient was admitted in coma, with history of having been struck on the head 36 hours previously. He had cephalhematoma over the vertex. Early, he responded and talked irrationally. Later he became stuporous and had a dilated right pupil. On June 12 1943 three burr holes were placed and a small amount of subdural hematoma eviscerated from left. Patient became somewhat better and on 15 June 1943 another burr hole was placed (left frontal) and slightly more clot removed. Spinal puncture revealed a pressure of 350mm of water and fluid with 3000 red cells per cu.mm. He improved after this removal of clot for a short time, when coma again supervened and a spinal tap yielded a red-cell count of 9000 cells per cu. mm. Preparation was made to reoperate in hopes of further relieving the pressure, when the patient suddenly died.

The salient features of the postmortem were:

The head is swathed in bandages which disclose a recently-shaven scalp upon removal. Three recently-sutured surgical incisions are noted therein, two placed in the left temporo-parietal region and a third over the rightside of the occiput. All measure about four centimeters in length. There is a faint, dish-shaped depression 6 cm in extent over the vault just anterior to the posterior. Also lacerations of the scalp were evident anywhere on inspection.

The left lung weighs an estimated 400 grams. The upper lobes is essentially unchanged; the lower does not crepitate and is swollen and hemorrhagic, the overlying pleura being injected. Cut sections disclosed a fairly dry, spongy upper lobe and a very bloody, non aerated lower lobe. There is a marked tracheo-bronchitis, particularly of the main air passages of the lower lobe.

Reflection of the scalp discloses three burr holes in the skull, underlying the skin incisions noted previously. Each one has been widened by rongeur, so that the edges are irregular, and each defect is about one inch in diameter. The underlying dura has been opened in each instance, and there is a minimal herniation of the underlying cortex, which is hemorrhagic. The sagittal suture has been nearly completely separated, and radiating from the closed anterior fontanelle are bilateral, irregular, complete fracture lines, extending along the frontal bone on each side of the midline for a distance of two inches, their course generally being just anterior to the intact coronal suture. When the calvarium is removed it falls neatly into two halves, due to the sagittal separation previously noted. The calvarium is unusually thin, measuring at the most 0.4 cm in thickness. Apart from the fractures and separation noted externally, there is a linear mark 12cm long extending at right angles to the long diameter of the calvarium and located approximately at an equal distance between the fused anterior and posterior fontanelles. The surrounding skull is depressed to a depth of 0.3 mm, and in extent corresponds to the depressed area noted externally.

The dura is a dark purple incolor, and upon opening much partially clotted dark blood is found in the subarachnoid space of both cerebral hemispheres. The clots are most marked along the course of the superior sagittal sinus, which has been torn in several places. The brain is but moderately edematous. Upon removal of the organ, a marked contusion of the under surface of the right frontal lobe is found, the same being true to a lesser extent of the inferior tip of the left frontal lobe. The subarachnoid spaces about the base of the brain are likewise filled with semi-clotted blood. When the dura is stripped from the various fossae, no fracture lines are noted in any of them.

Immediate section of the brain discloses considerable subpial hemorrhage in the anterior inferior tips of both frontal lobes, and numerous focal hemorrhages, measuring up to 0.5 cm throughout the white matter of the cerebral hemispheres. The pons is injected, but no gross hemorrhage is present in this structure. There is a very slight amount of blood tinting the fluid in the lateral and third ventricles. The fourth ventricle shows no particular change. The cerebellar lobes are

grossly normal, as is the brain stem. The middle ears are dry, as are the various air cells. The cavernous sinus appears intact.

Clinical Diagnoses:

- (1) Subdural hematoma.

Pathological Diagnoses:

RESPIRATORY SYSTEM: Hypostatic bronchopneumonia, left lower lobe, acute tracheo-bronchitis, left lung; partial atelectasis, right lower lobe.

SPLEEN AND HEMATOPOIETIC TISSUES: Splenitis, acute, early.

CENTRAL NERVOUS SYSTEM: Subdural and subarachnoid hemorrhage, recent and old; supial hemorrhage of anterior inferior surfaces of both frontal lobes; focal hemorrhages of white matter of cerebral hemispheres; minimal bleeding into lateral and third ventricles.

BONES & JOINTS: Traumatic separation of sagittal suture; bilateral simple fractures of both frontal bones; recent traumatic linear groove 12 cm long in calvarium at right angles to sagittal suture, with dish-shaped depression of surrounding skull

MISCELLANEOUS: Recent operative burr holes (three) in calvarium; recently shaven scalp; tattoo on left forearm.