INTERHEMISPHERAL SUBDURAL SUPPURATION

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Even though sporadic case reports of subdural suppuration have appeared in the literature for more than a century, accurate knowledge of its clinical symptomatology and pathogenesis is of relatively recent date and must be credited to the work of Courville,¹ Kubik and Adams,⁵ and Ray and Parsons.⁶ The management of this disease, which long remained in a twilight zone between the fields of otorhinolaryngology and neurosurgery, met with almost universal failure until, after the advent of antibiotics, numerous cured cases were reported (Gurdjian and Webster,² Schiller, Cairns and Russell,⁷ Keith and McKenzie⁸). Yet in spite of all advances made, much remains to be learned about diagnosis and treatment of this puzzling condition.

In a pathologic anatomic study of 44 cases, Courville¹ found that, as a rule, the subdural exudate covered the convexity of the cerebral hemisphere. The purulent process was only rarely located in the interhemispheral fissure. More recent observations of Schiller, Cairns and Russell,⁷ and of Keith and McKenzie⁴ show, however, that interhemispheral site of subdural suppuration is far more common than previously realized. Failure to recognize this special situation probably explains why the mortality rate of subdural empyema has remained unduly high. It was, therefore, considered of interest to report in detail a typical example of interhemispheral subdural suppuration and to discuss pertinent problems of diagnosis and management of such cases.

CASE REPORT

Summary. Right-sided pansinusitis of 2 weeks’ duration, followed by acute subdural empyema of right interhemispheral fissure; combined systemic penicillin and streptomycin therapy and drainage of empyema through three parasagittal trephine holes, with subsequent penicillin instillation. Three months later, signs of recurrent right occipital abscess; osteoplastic craniotomy with excision of chronic parieto-occipital interhemispheral subdural abscess. Second recurrence 1 month later: temporo-occipital osteoplastic craniotomy with excision of cortical occipital lobe abscess and extensive subdural granuloma of the epitentorial space. Cure verified by ventriculography; left homonymous hemianopsia only neurologic residual.


First Admission

History. For 2 weeks the patient had had acute right frontal sinusitis. Five days before admission he complained of severe frontal headaches associated with nausea,

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318
vomiting and stiffness of neck. The next day, weakness and numbness of the left leg ensued. On admission to a local hospital his temperature was 102°, pulse 98, and respirations 22. He showed signs of meningeal irritation with paresis and hyporeflexia of the left leg. WBC count 15,700; CSF contained 220 WBC. He was transferred to Blodgett Hospital with a tentative diagnosis of acute poliomyelitis.

Examination. The patient was acutely ill and lethargic. Temperature 101.8°, pulse 58 and respirations 18. B.P. 120/78. There was mucopurulent discharge from the nose and congestion of turbinates. His neck was moderately stiff; Brudzinski and Kernig signs were positive. Paresis and hyporeflexia of left lower extremity were noted with distal diminution of sensation. Babinski sign was positive on the left. Laboratory studies: Urine contained albumin but no casts. RBC 3,790,000; WBC 17,700: 5 non-segmented forms, 78 segmented and 17 lymphos. CSF contained 807 WBC: 91 per cent polys. and 9 per cent lymphos.; total protein 190 mg., sugar 74 mg., but culture and smear negative. Roentgenograms revealed clouding of right frontal, ethmoid and maxillary sinuses. Tentative diagnosis: Right pansinusitis with intracranial extension by thrombophlebitic route and with meningeal reaction. The patient was given 100,000 units of penicillin and 0.3 gm. streptomycin every 3 hours intramuscularly.

Further Course. The day after admission a series of left Jacksonian convulsions occurred, affecting mostly the leg. Temperature had risen to 104.8°, pulse 80, and respirations 24. Drowsiness and signs of meningeal irritation had increased. The eyegrounds remained normal but there was complete left homonymous hemianopsia. The left hemiparesis had become practically complete in the leg, moderately severe in the arm, but only minimal in the face. Superficial and deep sensations were disturbed on the left side of the body, particularly in the leg. Diagnosis: Acute right subdural empyema, presumably in a posterior and parasagittal (interhemispheral) localization.

Operation. On the same day (Mar. 24, 1947), under local anesthesia, a posterior parietal trephine opening was made close to the midline. After opening the dura, no subdural suppuration or meningitis was found on the convexity but the brain was under increased pressure. When an exploring cannula was introduced towards the

Fig. 1. Schematic drawings of right interhemispheral subdural empyema. (A, B) First operation. (C, D) Second operation. A and C, skull viewed from above to show trephine openings and suppuration (stippled). B and D, cross sections of head showing evacuation of pus.