ACTINOMYCOTIC (NOCARDIA ASTEROIDES) BRAIN ABSCESS WITH RECOVERY

CASE REPORT*

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(Received for publication March 16, 1954)

The widespread use of antibiotics has materially reduced the incidence of brain abscess within the past decade. This has been particularly true of those abscesses occurring as a consequence of otitic and sinus infections of bacterial origin. In a group of 10 brain abscesses observed during the past few years, 2 were caused by fungi. Though one of the two latter patients died, an apparent cure has been effected in the other with the use of antibiotics and surgical excision. This is believed to be the fourth reported recovery of a patient with actinomycotic brain abscess.

Ponfick, in 1880, first described actinomycosis of the brain. Ten years later Eppinger made the first report of a brain abscess caused by Nocardia asteroides. Friedman and Levy were able to collect 108 reported cases of actinomycosis involving the central nervous system by 1937 but found the results universally fatal. Eleven years later Jacobson and Cloward described the recovery of a patient with actinomycotic meningitis through the use of penicillin and sulphadiazine. The first cure of actinomycotic brain abscess, however, was reported in 1949 by Schneider and Rand; the lesion was apparently thoracogenic and was excised during intensive antibiotic and sulphapyridine therapy. Tinsley and Froman recorded the second recovery; in their case the brain abscess was also secondary to pleuropulmonary actinomycosis. In a comprehensive review of the problem published in 1953, Stevens described the third instance of successful management of these abscesses by excision.

A few years ago a middle-aged farmer's wife was seen in consultation because of profound coma and left hemiparesis. One and one-half years previously headaches of increasing frequency and severity began soon after tooth extraction. Jacksonian seizures were noted 1 month prior to hospitalization. Despite no evidence of systemic infection, brain abscess was suspected. Ventriculography confirmed the neurologic impression of right frontal localization and approximately 1 ounce of pus was obtained when the abscess was tapped. The patient, however, failed to respond and at autopsy it was apparent that pus had been obtained only from the original thick-walled abscess; the adjacent daughter abscess containing three times that amount of purulent material. Nocardia asteroides was isolated from the pus. It was felt that portal of entry was the tooth socket and that rupture of the chronic, thick-walled abscess coincided clinically and pathologically with acute onset of symptoms 1 month prior to admission.

CASE REPORT

In March 1952, H. M., a 22-year-old Latin-American boy, was referred because of "fits" which the usual anticonvulsant drugs had failed to control. Except for chronic drainage from the left ear of unknown duration, the patient had been well until 7 months previously when he began to have morning headaches and infrequent seizures. It was believed that the sei-

* Read before Southern Neurosurgical Society, Baltimore, Maryland, January 29, 1954.
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zures began in the right face, spreading to the right arm and leg before becoming generalized. One month prior to admission headaches increased in severity and were followed by drowsiness and ptosis of the left eyelid. Two days before admission and after a generalized convulsion, the patient noted he was unable to move the left eye or lid.

Examination. The patient was too lethargic to cooperate for adequate testing. In addition to left external ophthalmoplegia, bilateral papilledema of 4 to 5 D. and retinal hemorrhages were found. Vision on the left was markedly reduced. The temperature was 99.6°F., pulse rate 70, and respiratory rate 18. X-rays of the skull and chest were normal as were the Wassermann, urinalysis and blood count, except for WBC 12,350 with 73 per cent polys. Ventriculography (Fig. 1) suggested a left frontal mass.

Operation. Through a left frontotemporal flap a thick-walled abscess lying 4 cm. subcortically was tapped, 90 cc. of thick, odorless pus being evacuated. By means of a frontal transcortical incision the abscess was completely excised, after the method of Clovis Vincent. Cerebral swelling prevented replacement of the bone with the flap.

Pathological Report. Section of the specimen removed at operation revealed a smaller, anterior thick-walled abscess with a contiguous, thin-walled, multiloculated abscess posteriorly. Microscopically (Fig. 3) the abscess wall appeared to be well circumscribed and was surrounded by a zone of moderately edematous brain tissue.

Bacteriological Report. Cultures* from the purulent material within the abscess cavity revealed Nocardia asteroides.

Course. The patient was immediately placed on 400,000 units penicillin with 1 gm. dihydrostreptomycin every 6 hours. After the 2nd postoperative day he was afebrile for the remainder of his convalescence. Right hemiparesis and aphasia began to recede after the 4th day, and vision of the left eye improved. The wound healed per primam and the patient was

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