Subdural Empyema Secondary to Sinusitis

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By D. Brady Pregerson, MD [1]

For 7 days, a 10-year-old boy had had a headache and a fever (temperature, 38.8°C [102°F]); a viral upper respiratory tract infection had been diagnosed. His parents brought him to the emergency department when weakness in his right leg developed, which impaired walking.

The patient was alert but appeared ill. There was jolt accentuation of the headache; his neck was supple. Motor strength in the right leg was 31/5 for hip flexion, 1/5 for plantar flexion, and 1/5 for dorsiflexion. More than 20 beats of clonus and a positive Babinski sign were noted in the right leg. Meningitis or encephalitis was initially suspected.

A CT scan of the brain showed a fluid collection along the intracerebral fissure. Concomitant frontal sinusitis was also noted. A neurosurgeon was consulted; subdural empyema was diagnosed.

D. Brady Pregerson, MD, of Los Angeles writes that subdural empyema is a true neurosurgical emergency; the pus collection must be drained immediately to avoid rapid death from herniation. One study of 699 patients found that 12% died of the condition.1

Subdural empyema most often affects persons aged 6 to 20 years; frequently, the condition is secondary to sinusitis, meningitis, ear infection, or trauma. The most common symptoms include fever, headache, and seizures; the most frequently occurring signs are meningism, Pott puffy tumor, and hemiparesis, which is seen in 25% of patients.

Subdural empyema initially may masquerade as meningitis; 40% of patients involved in the aforementioned study underwent inappropriate lumbar puncture, which is contraindicated in those with empyema. A high index of suspicion, a careful neurologic examination, and appropriate CT scans are necessary to diagnose subdural empyema.

Emergent neurosurgical drainage, seizure prophylaxis, and high-dose antibiotics, such as ceftriaxone, nafcillin, and metronidazole, are the mainstays of treatment. Continued care may require consultation with an ear, nose, and throat specialist and sinus surgery to eradicate the primary focus of infection. Physical and occupational therapy may be warranted to facilitate an often slow and occasionally incomplete neurologic recovery.

During this patient's surgery, a large amount of frank pus was drained. Two additional operative procedures were required to drain reaccumulations of pus; cultures grew microaerophilic streptococci. The patient was able to walk 2 months after surgery; however, right leg weakness and a visual field limitation persisted.

REFERENCE:

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