

In early descriptions of neurologic illnesses, seventeenth-century clinicians spoke of “phrensy,” a malady characterized by fever, headache, and delirium. Most likely, patients suffering from phrensy, particularly children, had one of two different diseases. They had either meningitis, which was named first in 1828 by John Abercrombie¹ and literally means inflammation of the three meningeal membranes that surround the brain, or encephalitis, which means inflammation of the brain itself, usually caused by viruses.

The venerable physician Dr. Thomas Willis poetically compared delirium to phrensy, stating, “In a *Delirium* the perturbation rais’d in the Spirits, residing in the Brain seems like undulation of Waters in a River, upon throwing in a stone; but in a *Phrensy* their commotion seems as chief faculties of the brain arising from an inflammation of the meninges with a continual fever.” This description suggests that phrensy (the precursor of the modern word *frenzy*) may have referred to what we now know as seizures. Willis, a highly respected anatomist, dissected the brains of his patients who died of phrensy and found them to be inflamed, swollen, and compressed against the insides of their skulls, similar to the pathologic findings in what we now know as meningitis. He also recognized that some patients with phrensy displayed lethargy rather than raving.³

To Willis, the mechanisms underlying the lethargic and the manic forms of phrensy were ethereal, invoking anatomy and apparitions: “For inflamm’d Meninges, and much more swollen, greatly compress the Brain, and stop the passage of the Spirits, which causes a Lethargy; whereas in a Phrensy the Spirits are dilated above measure, the Pores of the Brain being all open’d.”² We now recognize that spirits have little to do with the lethargy or seizures or any other symptoms of meningitis. Rather, these symptoms represent an alteration of central nervous system activity caused by brain swelling, which is secondary to meningeal inflammation from the infection and reduced blood flow to the nervous tissues (Figure 1.1). In short, infection → brain swelling → reduced blood flow → altered brain function → lethargy or seizures.

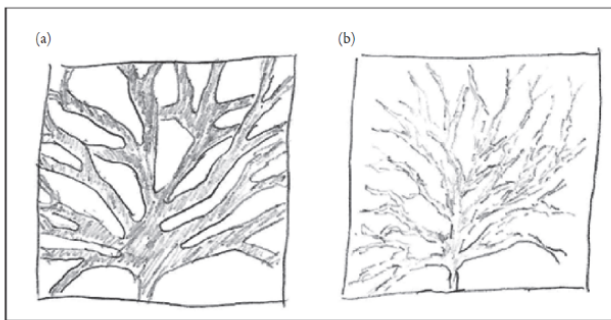


FIGURE 1.1 Cerebral edema. A. Normal brain with rich blood supply. B. Brain during meningitis with constricted blood vessels from cerebral swelling.

Drawing by the author.

Early clinicians had difficulty differentiating the various types of acute brain insults: meningitis, encephalitis, brain abscess, and stroke. The Scottish physician Robert Whytt distinguished “dropsy of the brain”—fluid accumulated in the cerebral ventricles (chambers deep inside the brain) and characteristic of advanced meningitis—from other central nervous system disorders.⁴ Most of the patients he described with dropsy likely had either hydrocephalus (literally water brain or water on the brain) due to congenital anatomic abnormalities that resulted in blocked cerebrospinal fluid (CSF) flow or hydrocephalus as a complication of meningitis. In patients with meningitis, unchecked inflammation from the infection interrupts the flow of the CSF that normally percolates over and through the brain as well as around the spinal cord (Figure 1.2). As a result, the liquid builds up within the chambers of the cerebral ventricles and increases the pressure inside the patient’s skull.

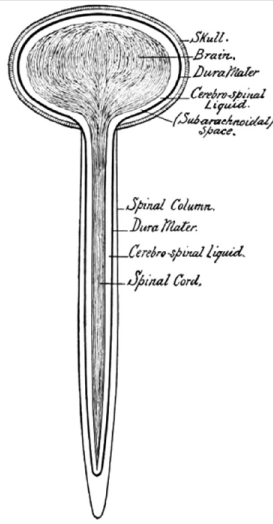


FIGURE 1.2 Schematic showing structures of the brain and spinal cord, including the meninges.

From Howell WH. *A Text-Book of Physiology, for Medical Students and Physicians*. Philadelphia: Saunders; 1905:554.

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