

Brain Infections

Viral Infections

Viral infection of the brain is called **encephalitis**. Viral infection in the CSF is called **viral meningitis**. Encephalitis is not usually a neurosurgical disease, but occasionally a diagnostic brain biopsy is needed.

Parasitic Infections

Parasitic infections of the brain are very rare in the USA. Numerous parasites can infect the brain. The most common parasitic infection of the brain is **cysticercosis**, caused by ingesting larva of the pork tapeworm (usually from contaminated water). The microscopic larvae penetrate the intestine, enter the bloodstream and lodge in the brain. As the larva dies, the brain reacts with an inflammatory response which forms a cystic structure (Figure 14). Eventually the cyst shrinks and calcifies, leaving a small area of calcification.

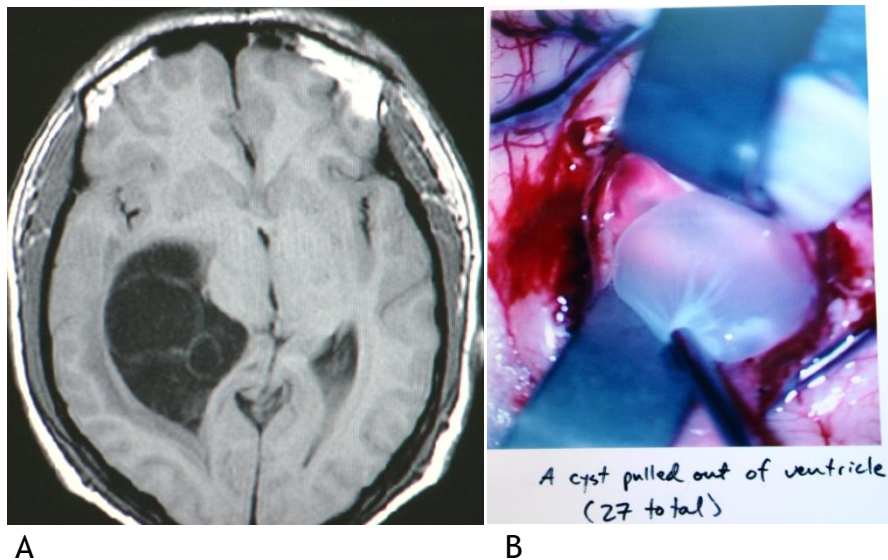


Figure 14: Acute cysticercosis of the brain.

- A. MRI scan showing numerous intraventricular cysticercal cysts in the lateral ventricle.
- B. Intra-operative photograph showing a cyst being pulled out of the ventricle between brain retractors.

Prion Diseases

Prion diseases are rare brain diseases caused by infectious proteins. Human diseases of this type include **Creutzfeldt-Jakob disease**, new variant Creutzfeldt-Jakob disease (also known as **mad cow disease**), and kuru. The diseases are spread through contact with brain tissue of a diseased patient. In the case of mad cow disease, disease can also be transmitted from the brain tissue from a diseased cow (generally in the form of beef by-products). The diseases are not spread through other contact. Prion diseases are always fatal, and the infectious proteins are difficult to denature (sterilize). As these diseases have a recognized clinical pattern, brain biopsies are almost never needed any longer.