



Arachnoid Cysts

Arachnoid cysts are cysts, not tumors. They are fluid-filled sacs that develop between the brain/spinal cord and a membrane called the arachnoid membrane, one of three membranes that cover the brain and spinal cord. If the arachnoid membrane splits or tears, it can trap cerebrospinal fluid – the fluid that surrounds and protects the brain from damage. The cysts grow as more fluid becomes trapped.

Symptoms

Symptoms vary depending on the size and location of the arachnoid cyst and can go undetected for years. Small cysts – and even many large ones – often exist without causing symptoms. However, if the cyst grows large enough it can put pressure on surrounding parts of the brain and spinal cord, resulting in the onset of symptoms.

Most common symptoms include:

- Headaches
- Nausea and/or vomiting
- Seizures
- Behavioral changes
- Hearing and vision problems
- Vertigo
- Balance problems while walking or standing
- Weakness or paralysis on one side of the body

Causes of an arachnoid cyst

While a definitive cause is unknown, most arachnoid cysts are present at birth and believed to be the result of developmental abnormalities. Several familial or hereditary conditions – such as Cockayne syndrome and Menkes syndrome – increase potential risk. Researchers believe arachnoid cysts form when the arachnoid membrane surrounding the brain suddenly splits or tears, trapping cerebrospinal fluid.

In adults, arachnoid cysts occur four times more often in men than in women and can form as a result of brain surgery or in conjunction with a brain tumor, infection or injury.

Diagnosis

There are two main methods used to diagnose an arachnoid cyst:

MRI - An MRI (magnetic resonance imaging) test is a non-invasive scan that reveals detailed images of the brain and its surrounding nerves and tissue. Since an MRI can identify the exact location and size of a cyst and its proximity to important structures within the brain and spine, it is the preferred method of diagnosis for both children and adults.

Ultrasound - In infants and young children, another non-invasive procedure known as an ultrasound is an alternative method of diagnosing arachnoid cysts.

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Treatments

If left untreated, large arachnoid cysts may put pressure on structures within the skull and brain, resulting in severe neurological damage that can be permanent. Depending on the size and location of the cyst, neurologic and spine specialists often use one of two treatment options to prevent damage: observation and surgery.

Observation - For smaller cysts and those not causing symptoms, regular examinations and imaging studies are often recommended instead of surgery.

Surgery - Given recent advances in microneurosurgical techniques and endoscopic tools, doctors now have the option to use minimally invasive surgery to treat arachnoid cysts. Since arachnoid cysts adhere to the structures that they touch, surgical options will often aim to relieve a patient's symptoms by opening and draining fluid from the cyst. This method is often preferred over removing the entire cyst and risking injury to the brain.

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