Key Points

- Pseudomeningocele is a serious complication of Chiari surgery which involves an abnormal collection of spinal fluid.
- Study involved 50 adult Chiari patients who underwent surgery, who were evaluated for pain, disability, and quality of life.
- One year after surgery, those who had developed a pseudomeningocele did not improve as much in overall quality of life as patients who did not have the complication.
- Something to consider in evaluating whether to have a bone only, or full decompression.

Definitions

pseudomeningocele - is an abnormal collection of spinal fluid which can form from the dura being opened as part of Chiari surgery

dura - thick outer covering of the brain and spinal cord; beneath the dura are the arachnoid and the pia

syrinx - fluid filled cyst in the spinal cord

extradural - situated or occurring outside the dura mater but within the skull

Source

Effect of symptomatic pseudomeningocele on improvement in pain, disability, and quality of life following suboccipital decompression for adult Chiari malformation type I. Parker SL, Godil SS, Zuckerman SL, Mendenhall SK, Tulipan NB, McGirt MJ. J Neurosurg. 2013 Nov;119(5):1159-65

Pseudomeningocele Negatively Effects Surgical Outcome in Adults

February 14th, 2014 - Chiari patients are always conscious of how to manage their life, both before and after decompression surgery. As so many are aware, encountering and controlling discomfort can be somewhat of a difficulty, but as reported by researchers at Vanderbilt University, when complications of decompression surgery occur, specifically the formation of a *pseudomeningocele*, improvement after surgery can be limited.

A pseudomeningocele is an abnormal collection of spinal fluid which can form from the dura being opened as part of Chiari surgery. In general, a pseudomeningocele can be monitored to see if it resolves on its own, temporarily drained, addressed by tightening the closure of the *dura*, or by installing a shunt.

The Vanderbilt study involved fifty adult patients, who were contacted to assess their preoperational and post-operational experiences one year after surgery. Specifically, nine established scales and instruments were used to assess pain, disability, and quality of life at baseline, and one year after surgery.

The patient group was comprised of 36 women and 14 men, with an average age of 38 years. Twelve (24%) patients reported that they had some form of respiratory disease, 12 (24%) suffered from depression, 7 (14%) had heart disease, and 17 (34%) currently smoked. Additionally, spinal cord disease symptoms were present in 20 (40%) patients, a *syrinx* was diagnosed in an additional 20 (40%), and 13 (26%) had minimal nerve impairment within the brain.

Post-operatively, overall, 33 (66%) patients confirmed they felt better, 6 (12%) felt the same, and 11 (22%) complained their condition was worse. However, there was a striking difference in outcomes between patients who had developed a pseudomeningocele and those who hadn't.

Specifically, eight to sixteen days after decompression, nine patients (18%) acquired a symptomatic pseudomeningocele. After 1-year, Dr. Parker and his team reported that those who suffered from postoperative pseudomeningocele only had improvements in headache and headache-related disability; remaining aspects such as neck pain, neck-associated disability, quality of life, personal health status, depression, and spinal cord ailments did not improve. Unfortunately, these results indicate that a symptomatic pseudomeningocele, one of the more common surgical complications, significantly decreases the likelihood of a full recovery.

Although the results appear strong, the authors note that the study is limited in a number of ways. First, not all the patients underwent the exact same surgical procedure, and the potential effect that has on the data is not clear. In addition, the precise mechanism by which the pseudomeningocele negatively affected outcomes is beyond the scope of the study. However, even given these limitations, the data is strong enough to add fuel to the debate over bone only decompression.

The authors also discuss the merits and drawbacks of *extradural*, or bone only decompression, which has been reported on extensively by Conquer Chiari. In summary, by not opening the dura, the risk of complications – such as pseudomeningocele –goes way down. However, research has also shown that the need for additional surgery goes up. This tradeoff can create a difficult choice for patients and their doctors.

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Ms. Eubanks is a professional writing and researching scholar from Purdue University Northwest. After being diagnosed with a Chiari I Malformation in 2011, she quickly decided that being conquered was not an option—she was committed to fight and pursue a budding love of healthcare/medical writing. Spreading awareness and hope to others battling Chiari is her largest motivator alongside educating others who have not heard about the condition. Reporting for Ideas in Motion Media and tutoring at the Writing Center (Purdue University North Central) has been immensely beneficial to her success as well as all the remarkable individuals who helped her become the composer and analyst she is today.