Less Invasive Surgery Can Work Even With Large Syrinxes

For many years now the medical community has debated whether it is always necessary to open the dura during Chiari surgery. The idea of a bone only decompression came about as a way to reduce complication rates, shorten hospital stays, and reduce the overall trauma of surgery. For pediatric cases, studies have shown that it can be effective in achieving these goals, but it does raise the risk of needing a second operation if the first one doesn't work. Neurosurgeons tend to have strong individual views on this topic with some saying the dura should always be opened, and others willing to try the less invasive approach in more and more cases. Surveys show that the idea is gaining ground, but that most surgeons will still open the dura when there is a syrinx.

Now, a report from surgeons at McGill University in Canada shows the less invasive approach may work even when there are severe syrinxes. The surgeons tried the less invasive surgery on four consecutive cases and performed MRI CSF flow studies immediately before and after surgery with the patient's head in the same fixed position. The cases involved three teenagers (aged 13-15) and a 3-year-old. Each child had a syrinx that spanned at least 7 vertebrae length wise and was at least 5mm in width.

During the decompression surgery cuts were made partially through the dura, but it was not fully opened meaning the underlying CSF was not exposed. The post-surgery flow studies in general showed only modest improvement but 3 of the 4 patients were symptom free within 6 weeks and their syrinxes completely resolved over time. The symptoms of the youngest patient took a year to resolve but since he was improving, the family did not want to try a second surgery and over time his syrinx reduced in size significantly. The children remained symptom free a couple of years after the procedure. Of note, there were no complications from the surgeries and three of the patients left the hospital the day after surgery.

The authors readily admit that four patients isn't nearly enough evidence and that more research is needed. They also acknowledge that larger, comparative studies have in general shown that not opening the dura increases the rate of reoperation. These studies have also shown that syrinxes resolve more quickly when the dura is opened. However, Conquer Chiari wonders if that's always an advantage. Might it be easier on the body to slowly return to normal rather than shock the system?

This situation highlights why patient education is so important for Chiari families, because in the end it is a personal decision. Individual patients are not averages and each must decide what is right for themselves (or their children).

Source: Can posterior fossa decompression alone effectively treat Chiari malformation type I patients with even severe syringes? Illustrative cases. Mohammad AH, Lacroix C, Saint-Martin C, Dudley RWR. J Neurosurg Case Lessons. 2025 Mar 31;9(13):CASE24777. doi: 10.3171/CASE24777. Print 2025 Mar 31. PMID: 40163896

Conquer Chiari's research updates highlight and summarize interesting publications from the medical literature while providing background and context. The summaries do contain some medical terminology and assume a general

understanding of Chiari. Introductory information and many more research articles can be found in the Conquer Chiari Library.

Conquer Chiari is a 501(c)(3) public charity dedicated to improving the experiences and outcomes of Chiari patients through education, awareness and research.