

Should The Cerebellar Tonsils Be Removed During Surgery In Adults?

Surgical studies comparing different techniques are common in the Chiari research literature. There are many studies highlighting the benefits and drawbacks of opening the dura during surgery, but one area which receives less attention is whether to reduce the size of the cerebellar tonsils themselves to allow spinal fluid to flow more freely. While in theory the benefits of shrinking the obstructive tonsils are obvious, some surgeons are uncomfortable removing actual brain tissue if it's not absolutely necessary.

Recently, researchers from China published a retrospective study of 182 adult patients (72% female) with both Chiari and syringomyelia which compared the effectiveness of resecting the cerebellar tonsils to a standard decompression surgery with duraplasty. There were 101 patients in the standard decompression group and 81 in the tonsillar resection group. To compare the techniques, the researchers used the Chicago Chiari Outcome Scale (CCOS) and how much the syrinxes shrunk in size after surgery.

From a statistical point of view, they found that the resection group had significantly higher CCOS scores (13.78 vs 13.19 out of 16) and greater average reduction in syrinx size (44% vs 35%) than the standard decompression group. In addition, there was no increase in complication rates among the resection group. However, it should be noted that from an absolute point of view, the differences they found are not very large. Further, some believe that a CCOS score of 14 or higher is considered a good outcome (others use 13+) and on average neither group achieved this target. In addition, there was no significant difference between the groups in regard to the percent of patients whose syrinxes did not improve or got worse (15% vs 17%).

These findings are probably not strong enough to change how most surgeons prefer to operate, but the authors did include some advice for patients worth considering. They advise that patient with a syrinx should undergo surgical intervention as soon as possible after diagnosis to stop symptom progression and prevent permanent nerve damage.

Source: Zhang M, Hu Y, Song D, Duan C, Wei M, Zhang L, Lei S and Guo F (2023) Exploring the prognostic differences in patients of Chiari malformation type I with syringomyelia undergoing different surgical methods. *Front. Neurol.* 13:1062239. doi: 10.3389/fneur.2022.1062239

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