

# Surgical treatment of type I Chiari malformation: the role of Magendie's foramen opening e tonsils manipulation

Tratamento cirúrgico da malformação de Chiari do tipo I: importância da abertura do forame de Magendie e manipulação das tonsilas

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## ABSTRACT

The treatment for type 1 Chiari malformation (CM 1) is one of the most controversial topics in the neurosurgical field. The present study evaluated two of the most applied surgical techniques to treat CM 1. **Method:** 32 patients were evaluated and divided in two groups: group 1 had 16 patients that were submitted to decompression of occipital bone and dura mater of the craniovertebral junction (CVJ); group 2 also had 16 patients and in addition to the previous procedure, they were submitted to Magendie's foramen opening e tonsils manipulation. The comparison between the groups included neurological exam and cerebrospinal fluid flow imaging during pre and postoperative periods. **Results:** Both techniques were equivalents in terms of neurological improvement of the patients ( $p > 0.05$ ), but the group 2 had more surgical complications, with relative risk of 2.45 (CI 1.55-3.86) for adverse events. Whatever the cerebrospinal fluid flow at CVJ, the patients of the group 1 achieved greater amount of flow than the group 2 ( $p < 0.05$ ) during the postoperative period. **Conclusion:** The cranial and dural decompression of the CVJ without arachnoidal violation was the best surgical intervention for treatment of CM 1, between these two compared techniques.

**Keywords:** Arnold-Chiari malformation, syringomyelia, cranial fossa, posterior.

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