

## THESES

**TREATMENT OF SYRINGOMYELIA ASSOCIATED WITH CHIARI MALFORMATION: ANALYSIS OF 30 CASES (Abstract)\*. Thesis. São Paulo, 1996.**

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The author presents the results of the surgical treatment of 30 patients operated between 1982 and 1994 with syringomyelia and Chiari malformation types I and II. These cases are part of a group of 71 patients treated surgically over the same period of time with Chiari malformation and skeletal defects in the craniocervical region, such as basilar invagination. In 42.2% of the patients there were simultaneous occurrence of malformations and syringomyelia. A historical review of syringomyelia and Chiari malformation is reported, as well a literature review of the main theories about the pathogenesis of both conditions. The patients' age averaged 33.6 years, ranging from 17 to 58 years. In this study group, there were 17 females and 13 males. The most common initial symptom, which occurred in 66.5% of cases, was those of the difficulty of performing work which needed manual skills, such as writing and sewing, followed by cervical pain suffered by 27.7% of the cases. On average, the symptoms had been present for 4.9 years prior to the diagnosis and treatment. In every case, 14 symptoms and 15 signs were analyzed under a protocol designed for this study. The symptoms present in 100% of cases were those of muscular weakness and sensory disorders of the upper extremities. The most frequent signs were hyperreflexia in the lower limbs occurring in 93.3% of the patients. Magnetic Resonance Imaging has proved to be the best method for diagnosing syringomyelia, Chiari malformation and the related bone anomalies of the craniocervical region.

The surgical treatment was adopted when the disease progressed and the neurological deficits became worse. All the studied cases were submitted to both a posterior fossa decompression and laminectomy of C1 and C2, with cerebellar tonsillectomy after the careful release of the arachnoid adherence with the purpose to allow for a wide and persistent communication between the IV ventricle cavity and the subarachnoid space. One patient undergone a syringopleural shunt after a initial craniovertebral decompression. The changes resulting from the chronic compression of the nervous tissue were evidenced by the histopathological examination of the excised cerebellar tonsils.

In the postoperative follow-up, the studied symptoms and signs were grouped in 7 titles and classified as better, unchanged and worse, in order to provide a better understanding of the results. The most common complications arising from the surgical treatment were the formation of pseudomeningocele which occurred in 7 cases, and meningitis that occurred in 3 patients. There were no deaths in this study group.

In conclusion, the craniocervical decompression with dural grafting and cerebellar tonsillectomy has proved effective in the treatment of syringomyelia associated with Chiari malformation, since it stopped and even reversed many of the disease signs and symptoms both in the short and long term. The surgical method is not only easy to perform but also has proved to be safe, since there were no deaths or complications other than those reported in the literature.

**KEY WORDS: syringomyelia, surgery, abnormalities (Chiari malformation).**

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