Tonsil coagulation

Surgical approaches for Chiari malformation type I (CM-I) complicated with syringomyelia (SM) are controversial, so we assessed the efficacy and safety of two widely used procedures.

Methods: We retrospectively analyzed results from posterior fossa decompression (PFD) using bony decompression with dura-splitting or a combined technique (duraplasty with arachnoid dissection and coagulation of the herniated tonsils) for CM-I associated with SM between Jan 2008 and Feb 2016. Patients were followed up for at least one year. General data, primary outcomes (symptom improvement, syrinx reductions, and complications) and secondary outcomes (operating time, blood loss, postoperative hospital stay) for each procedure were compared.

Results: Of the 49 patients treated, 17 had dura-splitting decompression and 32 had the combined technique. There were no significant differences in general data. The combined technique was significantly superior to dura-splitting for long-term syrinx reductions (length, 100.03 ± 44.79 vs 72.73 ± 34.79 mm, p = 0.040; diameter, 8.09 ± 3.46 vs 5.73 ± 3.02 mm, p = 0.026) and symptom improvement (75.00% vs 47.06%, p = 0.036). No postoperative complications occurred during dura-splitting cases; however, complications occurred in 9 combined technique cases (31.25%, p = 0.010) and surgical time was longer for the combined technique (248.03 ± 60.12 vs 167.94 ± 60.11 min, p < 0.001).

Conclusions: The combined technique improved long-term symptoms and reduced syringes compared to dura-splitting; however, postoperative complications are more likely [1)].

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