
Reconstruction of the cranial base in surgery for jugular foramen tumors.

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Abstract

OBJECTIVE: The surgical removal of a jugular foramen (JF) tumor presents the neurosurgeon with a complex management problem that requires an understanding of the natural history, diagnosis, surgical approaches, and postoperative complications. Cerebrospinal fluid (CSF) leakage is one of the most common complications of this surgery. Different surgical approaches and management concepts to avoid this complication have been described, mainly in the ear, nose, and throat literature. The purpose of this study was to review the results of CSF leakage prevention in a series of 66 patients with JF tumors operated on by a multidisciplinary cranial base team using a new technique for cranial base reconstruction.

METHODS: We retrospectively studied 66 patients who had JF tumors with intracranial extension and who underwent surgical treatment in our institutions from January 1987 to December 2001. Paragangliomas were the most frequent lesions, followed by schwannomas and meningiomas. All patients were operated on using the same multidisciplinary surgical approach (neurosurgeons and ear, nose, and throat surgeons). A surgical strategy for reconstruction of the cranial base using vascularized flaps was carried out. The closure of the surgical wound was performed in three layers. A specially developed myofascial flap (temporalis fascia, cervical fascia, and sternocleidomastoid muscle) associated to the inferior rotation of the posterior portion of the temporalis muscle was used to reconstruct the cranial base with vascularized flaps.

RESULTS: In this series of 66 patients, postoperative CSF leakage developed in three cases. These patients presented with very large or recurrent tumors, and the postoperative CSF fistulae were surgically closed. The cosmetic result obtained with this reconstruction was classified as excellent or good in all patients.

CONCLUSION: Our results compare favorably with those reported in the literature. The surgical strategy used for cranial base reconstruction presented in this article has several advantages over the current surgical techniques used in cases of JF tumors.