Jugular foramen schwannomas - longterm follow-up after radical microsurgical removal.

Eduard Zverina MD PhD FCMA; Martin Chovanec MD, PhD; Jan Betka MD, PhD, FCMA
Charles University, 1st Medical Faculty, Faculty Hospital Motol,
Dep. of Otorinolaryngology, Head and neck Surgery
Prague, Czech Republic

Introduction

Jugular foramen schwannomas (JFS) represent rare tumors of the skull base. Less than five hundred cases of JFS have been reported in the literature. No consensus exists on their management (watchful waiting, microsurgery or stereoradiosurgery). Aim of our study is to present longterm results of microsurgically treated JFS.

Methods

All data of consecutive patients microsurgically treated for JFS were analyzed retrospectively. All tumors were radically removed in one or two session. Operative approach (transcervical, transtemporal, retrosigmoid and combinations; mostly in one stage) was chosen according to the type of the tumor according to Kaye et al. (1984) and Pellet et al. (1988) (Fig. 1). Intraoperative monitoring of evoked potentials helped us to reduce the risk of injury to the neural structures. Each patient was carefully monitored before, during and after the surgery (Fig. 2 and Fig. 3). Five of those 25 patients were unsuccessfully treated before the microsurgery by several different methods including the stereoradiosurgery.

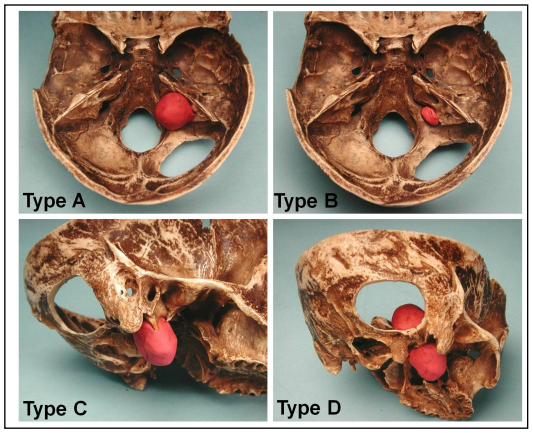

Fig.1. Classification of jugular foramen schwannomas.
Type A: intracranial; Type B: intraosseous; Type C: extracranial, type D: saddlebag - intra- and extracranial.

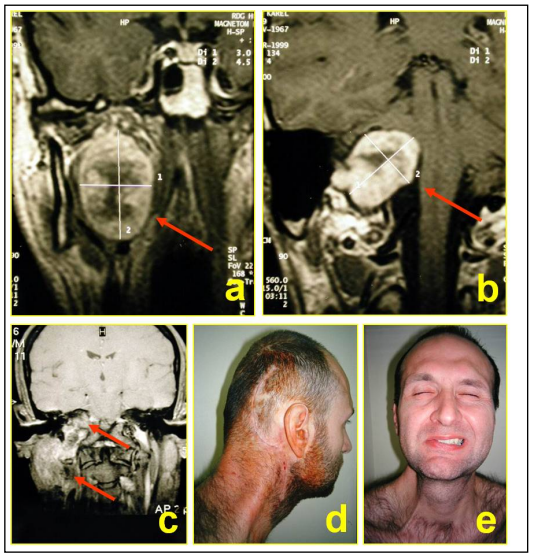

Fig.2. Example of radical microsurgery of jugular foramen schwannoma type D.
a and b: preoperative MRI; c: postoperative MRI, d and e: wound appearance.

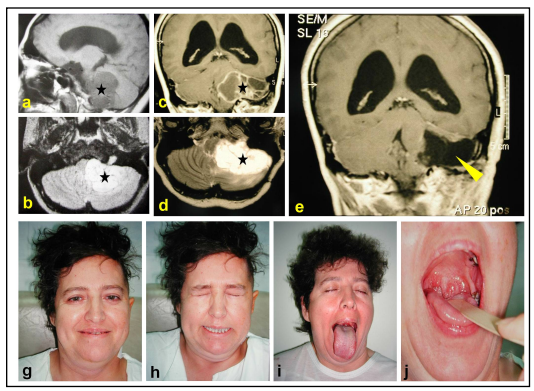

Fig.3. Case of tumor recurrence 11 years following radical microsurgical jugular foramen schwannoma type A removal via retrosigmoid approach.
a and b: preoperative MRI at the time of tumor diagnosis (asterisk: tumor); c and d: MRI proving tumor recurrence (asterisk: tumor) 11 years following primary radical microsurgery; e: postoperative MRI showing radical tumor removal (arrowhead: tumor free cerebellopontine angle cisterns); f-i: clinical findings following revision surgery proving only CN IX palsy .

Results

Our post-operative follow-up of 25 patients observed for up to 29 years did not show any mortality, just temporal or partial tolerable lesions of cranial nerves IX, X, XI, and only two tumor recurrences 11 and 14 years after the first surgery. These were successfully reoperated.

Conclusions

The microsurgical radical removal of jugular foramen schwannomas seems to be superior to all other methods of treatment including the LGN surgery.

References

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Pellet W, Cannoni M, Pech A. The widened transcochlear approach to jugular foramen tumors. J Neurosurg. 1988;69(6):887-94.
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