Extracranial meningioma might be primary (ectopic), without any connection to the cranial cavity or it might be secondary as an extracranial extension of intracranial tumor. The aim of the study was to evaluate clinical presentation and results of treatment of secondary extracranial meningioma.

Introduction
Extracranial meningioma is a type of benign neural crest tumor that can originate outside the cranial cavity. The primary goal of this study was to evaluate the clinical presentation and outcomes of treatment for extracranial meningiomas.

Material and methods
The group included 4 patients with tumors involving the nasal cavity and sinuses, and 7 patients with tumors involving the infratemporal fossa. In all cases, the patients were operated on in a Department of Neurosurgery 6 months to 13 years before presentation to our institution. CT and/or MRI were performed, and the radiograms well demonstrated the location and extension of the tumor.

For nasal and sinus tumors, endonasal or sublabial approaches were used. In a patient with infratemporal fossa, orbit, and sphenoid sinus tumors, sublabial transantral removal was performed. Other meningiomas invading the infratemporal space from the middle cranial fossa were removed via infratemporal fossa approach.

Results
Two patients with massive cavernous sinus involvement died 7 and 11 years after the first surgery. Other patients are alive without disease.

Conclusion
Imaging radiography well demonstrates extension of extracranial meningioma. Results of treatment are good providing there is no massive invasion of the cavernous sinus.

Fig. 1-4. MRI and CT demonstrate meningioma invading the nasal cavity and sphenoid sinus from the anterior cranial fossa.

Fig. 5-8. Coronal and axial MR scans show meningioma occupying the middle cranial fossa, infratemporal fossa, sphenoid sinus, nasal and postnasal cavity.

Fig. 9-10. Meningioma limited to the infratemporal fossa.

Fig. 11-14. Extended tumor occupying the middle cranial fossa, infratemporal fossa, sphenoid sinus, nasal and postnasal cavity.

Fig. 15-16. Drawings demonstrate surgical steps for infratemporal fossa.

Fig. 17-22. Intraoperative photographs demonstrate zygomatic arch osteotomy, the pterygoid muscle, and tumor removal from the infratemporal fossa.