173. MANAGEMENT AND SURGICAL OUTCOMES IN PATIENTS WITH LATERAL SKULL BASE PARAGANGLIOMAS

K.M. Diab, D.S. Kondratchikov, O.A. Pashchinina, A.G. Zukhba, A.E.Mikhalevich, A.A. Hijazi, E.G. Varosyan

State Scientific Clinical Center of Otorhinolaryngology, Moscow, Russia

Lateral skull base paragangliomas (LSBPs), also known as glomus jugulare tumors, are rare slow growing tumors with high vascularization, frequent invasion of the temporal bone, into the posterior cranial fossa, and the upper neck. Depend on their location, size, and extent, they have been classified by Fisch into four categories.

Treatment of LSBPs still remains controversial. Radiosurgery in some cases as the primary treatment revealed high rates of tumor growth control. However, radical resection of these tumors with preservation of the lower cranial nerves is the treatment of choice. Good visualization of the jugular bulb, internal carotid artery, parapharyngeal space and lower cranial nerves is relevant to completely remove of the tumor classes C and D. This can be achieved through infratemporal fossa type A and petro-occipital trans-sigmoid approachs.

In our retrospective study, we present surgical treatment, follow-up management, and long-term results for 16 patients with LSBPs treated at a single center at period from 2014 to 2016. 4 patients with class C paragangliomas underwent surgical treatment via infratemporal fossa approach type A.

Materials and methods. Endovascular occlusion of LSBPs is performed by superselective catheterization of the supplying branches and transarterial embolization. During the surgery sternomastoid muscle was detached from mastoid and the muscle was dissected along its anterior border. The major vessels of the neck (common carotid artery, internal (ICA) and external carotid arteries and internal jugular vein) and cranial nerves (VII, IX, X, XI and XII) are dissected. Sigmoid sinus is skeletonized, and the retrofacial cells are removed. Facial nerve was decompressed from geniculate ganglion to the stylomastoid foramen and then rerouted anteriorly. Subtotal petrosectomy is done. Tumor with jugular bulb are removed using bipolar cautery. We used neuromonitoring to identify the VII, X, XI cranial nerves. Also we used electromagnetic navigation system to facilitate orientation while removing tumor tissue along petrous segment of the ICA and from infralabyrinthine space.

Results. The use of the proposed approach allowed to obtain good functional results, managed to maintain the function of the lower cranial nerves. The function of the facial was preserved at 2-3 degrees on the scale House-Brackmann in the postoperative period. Recurrence of the tumor has not occurred in the postoperative period (maximum observation period about 12 months).

Conclusion. Management of lateral skull base paragangliomas requires a good knowledge of the temporal bone and cervical as well as intracranial anatomy to evaluate the extent and progression of the tumor and the type of surgical approach required. Improved surgical techniques have considerably decreased surgical morbidity. The combined studiousness of neck surgeon, otosurgeon, and interventional radiologist is mandatory for successful surgical treatment of LSBPs.

Keywords: paraganglioma, infratemporal fossa type-A.