MANAGEMENT AND SURGICAL APPROACH OF CAROTID BODY TUMORS: SINGLE CENTER EXPERIENCE IN KAZAKHSTAN

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ABSTRACT

A carotid body tumor (CBT), also commonly known as nonchromaffin paragangliomas and chemodectomas, is a slowly growing neoplasm originating from carotid body chemoreceptors. Approximately 1 in 30,000 formed head and neck corresponds to a paraganglioma, 45% of which have CBT. The objectives of the work was to conduct a retrospective analysis and show the experience of management and surgical approaches of CBT in our center. Materials and methods. The study was performed on basis of Scientific Central Surgery named after A.N. Syzganov. Only 8 patients with 8 tumors who underwent open surgical treatment of CBT over the past 10 years (from 2009 to 2019). Results. Half of the patients (4) had a significance complains. 6 (75%) patients had a painless mass in the neck, and 2 (25%) painful. According to the results of CTA and arteriography, the patients were classified according to the Shamblin classification (Table), of which 1 patient had the I type of tumor (12.5%), type II in three (37.5%) and type III (50%) 4 patients, one (12%) of which revealed hemodynamically significant stenosis of bifurcation of the common carotid artery (CCA). The average number of days a patient was in the hospital stay increased direct proportional difference and the type of tumor. The time and approach of the operation, intraoperative blood loss, the volume of blood transfusion increased in the same way as the size of the tumor increased, involvement of the carotid artery and malignancy of the tumors. One patient had a cranial nerve injury (temporal), which resolved after additional treatment. Pathology results showed that two patients (25%) had malignant cells in the tumor and one of them located in the lymph nodes. Conclusion. A rare occurrence, slow growth, asymptomatic course and a limited amount of information on the detection and management of the disease lead to an underestimation of the condition. In addition, the large size of the tumor, the involvement of the carotid arteries and cranial nerves in the process directly affect the surgical approach and increase the risk of complications.

Table. Distribution of patients according to Shamblin classification.

	Type I	Type II	Type III
Hospital stay, mean (days)	8±0	11,3±2,2	12,6±3,8
Tumor size, mean (cm)	4±0	5,3±1,54	6,3±2,8
Side, left/right	0/1	1/2	3/1
Bilateral	0	0	0
Operation time, mean (min)	78±0	155±42,2	189,5±31,5
EBL, mean (ml)	200±0	382±68,4	443±79,2
Blood transfusion, mean (ml)	0	304±127,3	488,5±201,3
Complications			
Cranial nerve injury	0	0	1
Stroke/TIA	0/0	0/0	0/0
Death	0	0	0
Pathology			
Benign CBT	1	3	2
Malignant CBT without metastases	0	0	1
Metastases to lymph nodes	0	0	1

ECA, external carotid artery; CCA, common carotid artery; EBL, estimated blood loss; TIA, transient ischemic attack; CBT, carotid body tumor.

ISBN: 978-81-942709-5-9; DOI: 10.21467/abstracts.97