J Spine Neurosurg 2018, Volume 7
DOI: 10.4172/2325-9701-C1-012

Survival and fictional outcomes after surgical treatment intramedullary spinal cord astrocytomas

N Konovalov, I Pronin, U Kushel, A Golovanov, A Nazarenko, P Zelenkov, R Onoprienko, D Asyutin, V Korolishin, M Martynova, I Cherkiev, B Zakirov, A Pogosyan and S Timonin
Nikolay Nilovich Burdenko Neurosurgery Institute, Russia

Introduction: Intramedullary astrocytomas have the second highest frequency of occurrence of all intramedillary spinal cord tumors, accounting for 6–8% of all spinal tumors. There are many factors that can influence the survival and fictional outcomes after surgical treatment astrocytomas, a top histological characteristic of the tumor. In our study, we evaluated patients with low- and high-grade gliomas from several options: duration of life, functional status, age, gender and other clinical factors.

Materials & Methods: In Burdenko Neurosurgical Institute, more than 385 patient underwent removal of intramedullary spinal cord tumor from 2002 to 2017. There were 55 patients with intramedullary low-grade (37 patients, 67%) and high-grade (18 patients, 33%) astrocytomas. Tumors were located in the cervical spine in 27 cases (49%), cervicothoracic spine in seven (12%), thoracic in 17 (30%) and cauda equina in four (9%). There were 24 male (43%) and 31 female (57%) patients. All patients undewent decompressive laminectomy and resection or biopsy of intramedullary tumors. During operation, we usually use fluoroscopy, MEPP and ultrasound destruction. The median follow-up was six years.

Results: Histological characteristics were as follows: 19 patients (35%) had grade I astrocytomas, 19 patients (35%) had grade II astrocytomas, 14 patients (25%) had grade III astrocytomas, three patients (5%) had grade IV. Sensitive disorders were observed in 48 cases (87%). Motor disorders: without paresis in six patients (11%), monoparesis in seven patients (13%), hemiparesis in four patients (7%), paraparesis in 12 patients (22%) and tetraparesis in 19 patients (47%). Bladder dysfunctions were observed in 25 patients (45%). Three patients (5%) died during the first year after operation (in one case–progression of tumor, in two cases–progression of general disease). Sixteen patients (30%) had been better after removal of tumor (transition from one McCormick grades up), 23 patients (45%) had been worst (transition from one or two McCormick grades down) and 13 patients (20%) hadn't changed McCormick grade (these are patients with first or second McCormick grade).

Conclusions: Spinal cord astrocyromas is a rare disease, which requires multimodal view on treatment and recovery. Histological characteristics and total removal of tumors have a huge influence on the length of survival. Radiotherapy and chemotherapy allows preventing recurrence of disease.