Material: A retrospective (1995-2017) and prospective (2017-2019) analysis of MTSL cases operated at the Department of Subtentorial neurooncology of the Romodanov Institute of Neurosurgery from 1995-2019 was conducted.
Result. During the reporting period 135 patients were operated on. Multiple supratentorial metastases were in 20(14%) and subtentorial in 10(7%) patients. The peculiarity of metastatic tumors from primary CNS tumors is the combination of neurological symptoms with the clinic of internal organ damage. The expressed cerebellar and occlusal-hypertensive disorders with absence or indistinctness of clinical manifestations from internal organs were characteristic for primarily or synchronous (simultaneous) detection of metastases in the posterior cranial fossa (PCF)(48 patients (35.5%). Of these 30 (62%) patients had so-called "anonymous" metastases. For these patients the symptoms of lesions of the PCF were the first manifestation of a systemic oncological process. In the category of patients with synchronous metastases 16(33.4%) had Karnovsky scale (KS)<70 and the severity of their condition was due to occlusion-hypertension syndrome. In the early postoperative period an increase in the proportion of patients with KS> 70% to 42(87%) was noted in this group, and in 6(13%) patients an KS<70%. The explanation for this is the surgical elimination of the leading cause of the condition severity. The second group (87(64.5%) grouped patients with metachronous metastases into the brain. 34(39%) had KS <70 due to clinically significant internal organ dysfunction in combination with PCF lesion symptoms. In the postoperative period with KS<70 were 24(27%) patients.
Conclusion: The presented data indicate that in the case of synchronous cerebral metastases in the postoperative period the proportion of patients with positive dynamics and in a satisfactory condition on the KS>70 was higher than in the metachronous metastases group. This encourages the prognosis of improving the quality of life of patients in the early postoperative period which is critical for the early onset of adjuvant treatment.

42. Long-surviving glioblastoma patients. How to achieve this in the present context?

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Background. Approximately 13% of adult glioblastoma patients who underwent combination therapy survive for 24 and more months. Glioblastoma patients with survival time of 2+ years after the surgery are commonly considered long-surviving patients. Factors that contribute to survival time increase are the subject of scientific research and extensive discussion.

The aim of our study. Determine factors that contribute to long survival time of glioblastoma patients and treatment outcomes in a particular study cohort.

Methods. English-language literature was searched using the following key words: glioblastoma, long-surviving patients, prognostic factors of long-term survival. A retrospective analysis of demographic data (age), Karnofsky score, CT data (tumor location, nature and extension), surgery extent (completeness of resection), postoperative treatment scope (radiotherapy, chemotherapy), postoperative quality of life in patients with survival time exceeding 24 months, who had histologically confirmed glioblastoma and were treated in Dnipropetrovsk Mechnikov Regional Hospital in 2009–2017, was performed. All patients were operated by the second author. Treatment outcomes in the entire group of glioblastoma patients who underwent comprehensive treatment in the specified period were assessed. Initial histological material was repeatedly studied by two independent pathologists.

Results. According to literature data, survival time of long-surviving patients who underwent combination therapy was most often associated with such factors as young age, good preoperative status based on Karnofsky score, macroscopically complete gross total resection (GTR) of a tumor, MGMT gene promoter methylation, or combined IDH1 mutation and MGMT gene promoter methylation.

110 patients were included in the study in total. Initially, 17 long-surviving patients were identified, but after data review by pathologists there were only 15 patients (13.6%, grade 4). In two patients, a tumor was a grade 3 anaplastic astrocytoma. Average age of long-surviving patients was 34±10.6, initial Karnofsky score was 90% (n = 12) and 70-80% (n = 3). In 2+ years, Karnofsky score was 90% (n = 11) and 70-80% (n = 3). 73% (n = 11) underwent tumor GTR and 27% (n = 4) had near total resection (NTR). 100% of patients (n = 15) had radiotherapy with a linear accelerator, 80% (n = 12) of patients underwent chemotherapy with temozolomide. A 5-year survival rate in the group was 8.2% (n = 9). Median survival in the main group was 11.6 months. In patients aged 21 to 40, median survival was 21.3 months. Immunohistochemical examination was not performed for all patients, so available results were not taken into account in statistical estimations.

Patients with prolonged tumor growth, which was revealed in three cases during the follow-up, require special attention. All patients with prolonged tumor growth were operated by us repeatedly and in one case, two surgeries with intervals of 3 and 2 years were performed.

Conclusion. Favorable survival factors in long-surviving patients in our study were young age, high initial Karnofsky score, gross total resection (GTR) of a tumor, and chemotherapy with temozolomide. Individualized treatment in case of prolonged tumor growth is an additional way of increasing survival time. Immunohistochemical, molecular, and genetic studies in the future will allow for deeper long survival time factors analysis.

KEY WORDS: glioblastoma, long-surviving patient, radiological therapy, median survival, MGMT, resection extent, gross-total resection.

43. Modern approach to diffuse low grade gliomas treatment

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Background. Recent advances in neurobiology, genetics, and diagnostic imaging showed that diffuse low grade glioma (DLGG) is a progressive, invasive, and chronic central nervous system disorder rather than a brain tumor. This aggressive lesion continuously grows, extends along white matter tracts, inevitably progresses into more severe malignant tumors and, consequently, causes disability and death.

The aim of our study was to review modern conceptual approaches to DLGG treatment according to literature data.

Methods. Online literature search in PubMed for 2009–2019 inclusive was carried out using the following key words: brain gliomas, diffuse gliomas, astrocytomas, oligodendrogliomas, low grade oligoastrocytomas.