Surgical treatment of malignant cerebellar infarction

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Malignant cerebellar infarction (MCI) results in expressed edema of the infarction zone. Mass effect leads to development of acute occlusive hydrocephalus and damage of brainstem. Mortality rate with conservative therapy goes to 85%.

Material and methods. There were 47 patients with MCI retrospectively analyzed In this study. Patients were divided into two groups. The surgical treatment group included 31 patients. The conservative treatment group included 16 patients. The contraindications to the operation were: presence of concomitant acute ischemia in the ICA territory or in the brainstem, atonic coma, severe somatic pathology. Mass effect was assessed according to the M. Jauss scale¹. The efficacy criteria of surgical treatment were: restoration of consciousness to Glasgow coma scale (GSC) 15 scores, restoration of IV ventricle and the quadrigeminal cistern configurations.

Results. Fifteen patients underwent isolated ventriculostomy. The recovery of consciousness level was observed in 7 patients on average 13 day. The restoration of IV ventricle configuration was observed on average 11 postoperative day. The efficacy was 46%. Four patients only suboccipital decompression craniotomy (SDC). Among them 2 patients underwent SDC with additional external ventricular drainage (EVD) as second operation, and one patient had no positive dynamics. The efficacy was 50%. Suboccipital decompression craniotomy with simultaneous EVD was performed in 14 patients including 2 patients mentioned above. The recovery of consciousness was observed on 4 day as well as the restoration of basal cisterns and IV ventricle were noted during 1st day in this group. The efficacy was 79%. Postoperative mortality in the surgical group was 48.4%. In the conservative treatment group, mortality was 75%.

Conclusion

Patients with a decrease in consciousness up to 14 according to GCS and below, with signs of the brainstem compression from the data of neuroimaging, it is advisable to perform SDC with simultaneous EVD.

Compute tomography of 33 year old patient's brain with malignant cerebellar infarction. A - 48 hours from the onset of the stroke, volume of ischemia 75 cm³, coarse compression of the IV ventricle and the quadrigeminal cistern, GCS 11 points; B -24 hours after the operation (72 hours after the onset of the stroke) SDC with EVD, partial resection of the infarcted tissue of the cerebellum, mass effect in the posterior cranial fossa with a tendency to regress. Regress of a brainstem direct compression.