

Brain Tumor and Pregnancy



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Abstract

Brain tumors (BT) are not frequent but one of the most difficult clinical situations which oblige prescribes strictly individualized treatment. The experience of searching the pregnancy. And delivery of patients with brain tumors is presented. There were 45 patients with BT in all patients. The structure of BT in pregnant patients is cited. The mode of delivery is predominantly the vaginal route, a number of operative vaginal delivery is also present.

Keywords: Pregnancy; Brain tumor; Computer tomography; Cesarean section; Vacuum-extraction of the fetus

Introduction

Brain tumors (BT) are not frequent but one of the most difficult clinical situations which oblige prescribes strictly individualized treatment [1]. There are no real data of frequency of such pathology in pregnant patients, only extrapolation. Clinical signs of BT may be noted during the course of pregnancy because intracranial tumors are found in 75% of cases in the reproductive period [2]. The maternal mortality among women with BT is extremely high and reaches 24, 3% [3,4]. The course and outcome of BT during pregnancy are usually unfavorable. Pregnancy interruption causes only temporary improvement.

Aim: to improve maternal and perinatal outcomes in pregnant patients with BT by optimization of the pregnancy course, labor and puerperal period with help of early diagnosing, timely specialized effective treatment.

Material and Methods of Investigation

45 pregnant women aged 21-30 were under our supervision. They were divided in 2 groups: the first consisted 11 patients with BT found in the present pregnancy: in one case there was a neurinoma of the acoustic nerve, in two - astrocytoma of Grade I and II, in two - glioma of Grade II and III, and in four - glioblastomas Grade III-IV, there was 1 case with oligodendroglioma. Irradiation has been taken place in pregnant patients with the glioma of the brain stem (15 courses). The BT has been diagnosed during the second trimester of pregnancy in 16-32 weeks of pregnancy. The second group included 34 pregnant patients with BT of different localizations after neurosurgical treatment. The histology showed astrocytoma

Grade I and II in 30 cases and meningioma in 2 cases, 1 case of medulloblastoma and 1 case of neurocytoma the interval from operation up to the state of pregnancy is 1-2 years. Every patient endured skull trepanation, tumor eradication, in 5 cases chemotherapy and ray treatments were accomplished.

All patients had computerized tomography to define the localization and spreading of the neoplasm in conditions of the ray defense of the fetus and standard clinical and laboratory methods of examination. Also magneto-resonance tomography and electroencephalography to find local disturbances of brain biopotentials and /or evaluation of the cerebral disturbances on the whole have been fulfilled. All patients were consulted by neuro-ophthalmologist, anaesthesiologist, neurology. Dynamic ultrasound examinations of the fetus, the study of the hormonal status of the feto-placental complex were carried out.

Obtained Results and Discussion

The patients of the first group had anaemia in 3 cases and feto-placental insufficiency in 2 cases. The first clinical signs of the tumor were presented as common cerebral symptoms: nausea, vomiting, visual disturbances and they were estimated as pregnancy complications. But later local symptoms joined[^] epileptic attack, hypertension, Hydrocephalic syndrome, diminution of hearing. The treatment included antiepileptic drugs, corticosteroids, therapy of the feto-placental insufficiency. There was regress of common cerebral and local symptoms in 6 cases and the pregnancy was prolonged up to 37 weeks/four patients has simultaneous operation at 32-34 weeks of gestation

due to progress of the neurologist symptoms: cesarean section and neoplasms withdrawal.

According to literature the abdominal delivery presents up to 75% of cases [5]. Our patient with acoustic nerve's neurinoma has been delivered at 32 weeks of gestation. Then at the 7th postoperative day she has been transported the neurosurgical department where the tumor has been eradicated. The babies from patients of the first group were born in satisfactory condition with Apgar score 6 and 8 and in 5 days the condition has been estimated as satisfactory. In 1 case in puerperium according to the tumor histology there was combined radiation and chemotherapy (8 courses of Temozolomide).

Among the patients of the second group the course of pregnancy was complicated by threatened abortion in 5 cases, fetal-placental insufficiency in 2 cases, anaemia in 3 cases. Symptomatic epileptic attacks have been in 3 cases despite antiepileptic drug's treatment. 12 patients were delivered by cesarean section, 18 patients by spontaneous vaginal delivery: 3 cases with vacuum-extraction and 1 with obstetric forceps. 29 babies have been born in good condition with the Apgar score 8 and 9, 4 babies had Apgar score 7/8 on the 2nd puerperal day their condition was satisfactory, 1 baby delivered with the score 7 and 8 according to Apgar scale had intrauterine pneumonia and was transported to the department of the pathology of newborn. Four premature babies had 1600-2400g of weight, score by Apgar scale 6 and 8, all of them have been transported to the department of the pathology of newborns. As a catamnesis the inspiration for 3 years has been accomplished:

neither worsening of the patient's condition nor the progress of neurologist symptoms. There was no maternal lethality. 4 patients had died in 1, 5-2 years after delivery (glioblastomas of Grade III-IV).

Conclusion

The optimal strategy of delivery of pregnant patients with BT is pregnancy prolongation to term and simultaneous operation of cesarean section and neurosurgical tumor removal with combined treatment in puerperal period according to data of the histological examination. The progressing of common cerebral symptoms and local symptoms, hypertension – hydrocephalic syndrome or progressive vision disturbances forces neurosurgical operation to be accomplished with possible prolongation of pregnancy and forthcoming operative delivery.

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