



Results of Surgical Treatment of Stroke Intracerebral Hematomas

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ABSTRACT

This article seeks to examine Iraqi EFL learners' perceptions of parental involvement and how their attitudes toward parental involvement are associated with the success of parental involvement. Two hundred fifty four EFL children in South Korea participated in a survey asking the degree of their parent's involvement in seven involvement types and their attitudes towards parental involvement. The results showed that while all types of parental involvement were positively correlated with English proficiency for the group of children with positive attitudes towards parental involvement, no such correlations were found for the group of children with highly negative attitudes. In addition, for the group of children with moderately negative attitudes toward parental involvement, only less direct, autonomy-supportive parental involvement was found to be related to their achievement. These results suggest that learners' attitudes toward parental involvement may be a factor that delimits the positive influence of parental involvement on EFL learners' achievement.

Keywords:

102 operations were performed in the Department of neurosurgery of the Andijan branch of the RNCMP in patients with hemorrhagic stroke (GI) in the form of intracerebral hematoma (IMG).

Introduction

The methods of surgical interventions were determined by the clinical course and topographic and anatomical features of hematomas. During surgical operations, a Backlund needle was used to destroy and remove the hematoma. Classical puncture-aspiration hematoma removal was performed using drainage after preoperative calculations on Multispiral Computed Tomography (MSCT). In all cases, the VMG was removed subtotally, the operation was completed by external drainage. Based on the volume of hematoma residues, local fibrinolysis was performed.

Based on the analysis of the results, the features of the surgical methods used were revealed. A differentiated approach to the method and scope of surgical intervention in patients with VMG allows to increase the effectiveness of neurosurgical care. Intracerebral hematomas (IMH) in hemorrhagic stroke (GI) in most cases are a complication of hypertension, and, as a rule, are its final stage [1, 2, 6, 9]. A significant volume of HMG, their localization in subcortical nuclei, blood breakthrough into the ventricular system of the brain are the main intracerebral causes of early deaths [2, 5, 9]. The earlier and more radically removed the hematoma leading

to compression and dislocation of the brain, the less dyschemic processes in stem structures, perifocal edema and hypoxia of the brain [1, 6]. To date, there are many ambiguities in the tactics of management of patients with VMG and the choice of surgical treatment method [8]. Among the modern methods of surgical minimally invasive treatment of VMG, stereotactic, endoscopic, classical puncture-aspiration method is used in combination with fibrinolysis of hematoma remnants [3, 4, 7, 8, 10, 11]. High-tech methods of removing HMG are expensive, and, unfortunately, for most of the neurosurgical departments are inaccessible. At the same time, the observant and expectant tactics of neurosurgeons in most cases are not always justified. The purpose of our study is to compare the results of the two most commonly used methods of surgical treatment of patients with VMG by practical neurosurgeons: surgical and classical puncture— aspiration.

Materials and methods.

The analysis of surgical treatment of 102 patients with HMG with GI aged from 24 to 83 years (55.7 ± 0.1) was carried out, among them there were 47 women, 55 men. Persistent arterial hypertension was detected in 88% of patients. The results of surgical treatment of HMG that occurred against the background of rupture of aneurysms and arteriovenous malformations were not included in the materials of this article. The severity of the condition was assessed on the Glasgow Coma Scale (GCS). The results of surgical treatment were evaluated according to a 5-point Glasgow Outcome Scale (SHIG). The classical puncture-aspiration method was operated through a milling hole. The place of trephination, the direction, and the depth of drainage were determined by the results of MSCT of the brain, projecting a hematoma onto the structures of the skull. The timing of drainage of the hematoma cavity was determined by the intensity of evacuation of lysed blood after local fibrinolysis by streptokinase. Depending on the nature of the surgical intervention and the features of the clinical course, all patients were divided into two groups:

Group I included 30 patients with a stable course of GI, in the treatment of which surgical techniques were used, group II consisted of 72 people with negative neurological dynamics. He performed puncture-aspiration removal of hematomas. The age of the operated patients in both groups was almost the same -56.8 ± 2.0 years in group I and 53.8 ± 2.2 in group II ($p > 0.05$). Patients with a stable clinical course of GI comprised group I: 5 people with lobar VMG, 22 — with medial, 3 — with lateral. The II clinical group included patients with negative neurological dynamics of the course of GI: 31 patients with lobar, 27 with lateral and 14 with medial VMG. The breakthrough of blood into the ventricles of the brain (from intraventricular hemorrhage to complete intraventricular tamponade) in group I was in 13 patients (43.3%), and in group II — in 38 (52.7%). There were no patients with intracranial parenchymal hematomas. In group I, 7 people died after surgery (23.3%), in group II — 16 (22.2%). All the patients who were in deep deafness successfully underwent surgery: there were no deaths in both clinical groups. The level of postoperative mortality among patients in sopor in group I was 36.8%, and in group II — 21%. All the patients operated in a comatose state died. Functional outcomes were determined by the severity of the condition in the preoperative period: more favorable SHIG results were observed among patients in deep stupor, less favorable — among patients in sopor. Surgical intervention in the acute stage of hemorrhage in group II patients was characterized by poor results — 33% of patients died; in the early subacute stage, 50% of group I operated and 28% of group II patients died. In the late subacute stage of GI, 6% of the operated group I and 10% of the operated group II died. There were no fatal outcomes in the chronic stage of GI. The outcomes of SHIG surgical treatment indicate that the functional result depends on the duration and method of intervention: better indicators were observed in group I, and tended to increase the number of SHIG scores with the transition of HMG to a chronic form. In the II clinical group, functional outcomes were worse and had almost the same indicators regardless of the timing of

operations. Patients with hematomas with a volume of 15-30 cm³ successfully underwent surgery — there were no deaths in both groups. Among patients with HMG 30-45 cm³ of group I, 28% of those operated died, and in group II — 15%; among patients with HMG 45-60 cm³ in group I, there were no deaths, and in group II, 18% of those operated died. The maximum level of deaths was in patients with HMG 60-100 cm³: in group I, all operated patients died, and in group II — 39%. Functional outcomes according to SHIG were determined by the volume of HMG: the best results (from 4 to 3.5 points) were obtained with a volume of hematomas up to 60 cm³, the worst (3.3 points) — in patients with a volume of hematomas more than 60 cm³. Localization of hematomas affected the number of deaths. There were no deaths among those operated with lobar HMG in group I, and 19% of those operated in group II died, with lateral localization of HMG in group I there were no deaths, and 33% of those operated in group II died; in patients with medial hematomas in group I, the mortality rate was 31.8%, and in group II — 7.1 %. The best functional outcomes for SHIG were with lobar HMG, the worst — with lateral and medial localization. A recurrence of hematoma was observed in 6 patients in the early postoperative period. Thus, during aspiration of medial VMG, in the next few hours after surgery, repeated hemorrhage occurred in 4 patients, they performed open hematoma removal, which led to massive cerebral edema and death. Two patients with recurrent lateral hematomas were also operated on in a reopened manner, one of them was in a vegetative state for 4 months, the other was discharged with moderate neurological deficiency. The worst results were obtained in patients with medial hematomas — 31.8% of those operated died. The puncture method of removing HMG also presents certain difficulties: drainage of medial hematomas of small volume requires good knowledge of the anatomy of intracranial structures. The worst results in this group were obtained in patients with lateral hemorrhages — postoperative mortality was 33%.

Results and their discussion.

Surgical aspiration of VMG has its advantages and disadvantages. The undoubted advantage is the accuracy of pointing the Backlund needle into the calculated hematoma zone, which significantly improves the results of surgical treatment of lobar and lateral hematomas with a volume of 15-45 cm³. However, with an increase in the volume of HMG (45-60 cm³), the effectiveness of the surgical technique decreases, which is confirmed by a high postoperative mortality of up to 100% in patients with hematomas of 60-100 cm³. A relative disadvantage is the need to apply prolonged negative pressure in the area of surgery, which complicates the control of the volume of aspirated hematoma, and also increases the risk of bleeding and additional perifocal edema of the brain. This additional traumatic factor worsens the condition of patients who are in copor or with medial hemorrhages, and ultimately leads to a higher percentage of deaths. But among the surviving patients with medial hematoma localization, functional outcomes were significantly better. Surgical evacuation of hematomas in combination with local fibrinolysis, in the acute and early subacute stages is more traumatic, which is confirmed by a high percentage of deaths. Analysis of the results of surgical removal of medial hematomas indicates that this method has a high degree of traumatism in relation to subcortical structures, which must be taken into account when choosing a method and the degree of radicality of surgical intervention. It should be noted the high cost and low availability of surgical equipment. The advantage of classical puncture-aspiration evacuation of VMG, in combination with local fibrinolysis, is accessibility, as well as the absence of the need to create prolonged negative pressure in the area of surgery, which eliminates intraoperative bleeding and additional mechanical irritation of the median structures. The level of postoperative mortality in patients with medial hematomas in this group is significantly lower. The puncture-aspiration method, unlike the surgical one, does not require long-term planning (calculation of the coordinate system, strengthening of the CT

localizer, etc.), which shortens the preoperative period. The somewhat worse results of puncture-aspiration removal of lobar and lateral hematomas (a relatively high percentage of deaths, low values for SHIG) can be explained by the more severe condition of patients, the prevalence of massive HMG in this group. A relative disadvantage of the puncture-aspiration method of removing HMG is the difficulty of puncture of medial hematomas of small volume.

Conclusions.

1. The outcomes of surgical interventions in both groups are influenced by the timing of the operation, the volume of VMG, the severity of the condition in the preoperative period, the peculiarity of the method.

2. Surgical operation is advisable in the late subacute and chronic stage of hemorrhage in patients with stunning and with a volume of up to 45 cm³. Surgical evacuation of medial hematomas should be extremely gentle.

3. Massive VMG, the clinical course of which is characterized by deep depression of consciousness, preferably operated by the classical puncture-aspiration method. Removal of VMG in the acute and early subacute stages of GI is advisable to perform a puncture-aspiration method.

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