

## Analysis of the Treatment Hemorrhagic Stroke in Multidisciplinary City Hospital №1 Nur-Sultan

**Authors :** M. G. Talasbayen, N. N. Dyussenbayev, Y. D. Kali, R. A. Zholbarysov, Y. N. Duissenbayev, I. Z. Mammadinova, S. M. Nuradilov

**Abstract :** Background. Hemorrhagic stroke is an acute cerebrovascular accident resulting from rupture of a cerebral vessel or increased permeability of the wall and imbibition of blood into the brain parenchyma. Arterial hypertension is a common cause of hemorrhagic stroke. Male gender and age over 55 years is a risk factor for intracerebral hemorrhage. Treatment of intracerebral hemorrhage is aimed at the primary pathophysiological link: the relief of coagulopathy and the control of arterial hypertension. Early surgical treatment can limit cerebral compression; prevent toxic effects of blood to the brain parenchyma. Despite progress in the development of neuroimaging data, the use of minimally invasive techniques, and navigation system, mortality from intracerebral hemorrhage remains high. Materials and methods. The study included 78 patients (62.82% male and 37.18% female) with a verified diagnosis of hemorrhagic stroke in the period from 2019 to 2021. The age of patients ranged from 25 to 80 years, the average age was  $54.66 \pm 11.9$  years. Demographic, brain CT data (localization, volume of hematomas), methods of treatment, and disease outcome were analyzed. Results. The retrospective analyze demonstrate that 78.2% of all patients underwent surgical treatment: decompressive craniectomy in 37.7%, craniotomy with hematoma evacuation in 29.5%, and hematoma draining in 24.59% cases. The study of the proportion of deaths, depending on the volume of intracerebral hemorrhage, shows that the number of deaths was higher in the group with a hematoma volume of more than 60 ml. Evaluation of the relationship between the time before surgery and mortality demonstrates that the most favorable outcome is observed during surgical treatment in the interval from 3 to 24 hours. Mortality depending on age did not reveal a significant difference between age groups. An analysis of the impact of the surgery type on mortality reveals that decompressive craniectomy with or without hematoma evacuation led to an unfavorable outcome in 73.9% of cases, while craniotomy with hematoma evacuation and drainage led to mortality only in 28.82% cases. Conclusion. Even though the multimodal approaches, the development of surgical techniques and equipment, and the selection of optimal conservative therapy, the question of determining the tactics of managing and treating hemorrhagic strokes is still controversial. Nevertheless, our experience shows that surgical intervention within 24 hours from the moment of admission and craniotomy with hematoma evacuation improves the prognosis of treatment outcomes.

**Keywords :** hemorrhagic stroke, Intracerebral hemorrhage, surgical treatment, stroke mortality

**Conference Title :** ICNT 2022 : International Conference on Neurosurgery and Trauma

**Conference Location :** Istanbul, Türkiye

**Conference Dates :** September 27-28, 2022