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Introduction:
The detection of biomarkers levels facilitates an early diagnosis of brain tissues damage, allows assessing the prognosis of the disease and its outcome, and performs the monitoring of the patient treatment.

Methods:
We studied 64 patients (36 m, 28 f.). 1st group comprised 12 patients with severe brain trauma: 1a – survivors with good outcome (on Glasgow outcome scale groups I-II) (n=8), 1b – dead or severely disabled (on Glasgow outcome scale groups III-V) (n=4). 2nd group comprises 37 patients with intracranial and sub-arachnoid hemorrhages: Assignment to groups 2a (n=14), 2b (n=22) was done using the same criteria as group 1. 3rd group comprises 16 patients operated in conjunction with brain tumor. Assignment to groups 3a (n=6) and 3b (n=10) was done using the same criteria as groups 1 and 2. We tested the level of N-terminal Pro-Brain natriuretic peptide in blood (0-125 pg/ml) between 1st and 3rd days after severe brain injury and then every 2-12 days for the total duration of 21 days.

Results:
Statistical analysis failed to demonstrate noticeable difference in the level of NTproBNP between groups 1,2,3. We detected the differences between subgroups (p<0.01). Patients from groups 1a,2a,3a (n=28) NTproBNP level stayed below 700 pg/ml in 20 cases (71%), in the 8 cases (29%) the level was above 700 pg/ml, but by 14-21th day decreased to the normal values. For patients in subgroups 1b,2b,3b (n=36) in 28 cases (78%) NTproBNP level was above 700 pg/ml at least once, in 8 cases (12%) level stayed below 700 pg/ml but remain high for the entire duration of the study without significant decrease.

Conclusions:
All the patients with acute brain injury show the increased level of NTproBNP above normal values, irrespective of ethiology of injury. In case when NTproBNP level increases above 700 pg/ml and/or does not decrease to the normal values it is possible to predict a negative outcome.