ABSTRACT

OBJECTIVES:

The S100B protein subgroup is a thermolabile acidic calcium–binding protein. S100B protein was first described in the central nervous system. Destruction of the nerve tissue results in S100B protein release from astrocytic glial cells and elevation of its levels in the cerebrospinal fluid. If the blood–brain barrier is also damaged, S100B gets into the systemic circulation and elevated blood levels of S100B are detected.
Higher S100B serum levels in patients with head injury are predictive of possible development of secondary brain injury and the extent of permanent injury to the CNS.

MATHERIAL AND METHODS:

The authors present their results obtained in the group of 39 children aged 0 (newborns) to 17 years with isolated craniocerebral injury.

RESULTS:

Our group included 39 children aged 0–17 years. Excellent results (GOS – Glasgow outcome scale 4–5) were observed in 33 patients already at the time of transfer from our ICU to the neurological department. There was no death and the poor outcome group included only 6 children. Second GOS evaluation was performed 6 months later, when 36 children were in the GOS 4–5 group and only 3 children in the GOS 2–3 group.

CONCLUSIONS:

Due to high variability in S100B protein serum levels in children depending on age and gender, no correlation between initial S100B levels and GOS has been observed in this group of patients. Our results indicate that the rate of decrease of S100B protein level to normal values is more crucial than its absolute value.

KEY WORDS:

craniocerebral injury, protein S100B, GCS (Glasgow coma scale), GOS (Glagow outcome scale)