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Acute subdural hematoma in the elderly; clinical and CT factors influencing the surgical treatment decision.

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Abstract

OBJECTIVE: Acute subdural hematomas (aSDH) are severe traumatic brain injuries. Older patients have a higher mortality rate. In the present study the computed tomography (CT) and neurological deficits caused by aSDH were used as prognostic factors to define the outcome and surgical treatment indication in older patients.

METHODS: The affect of the Glasgow Coma Scale (GCS) score on initial presentation, pupil abnormalities, parenchymal lesions, SDH-thickness, midline shift and intracranial pressure (ICP) in the outcome of older patients (≥ 65 years old) admitted to our hospital between 1993 and 2006 with aSDH was evaluated. The outcome was assessed with the Glasgow Outcome Scale (GOS). The data were collected retrospectively. Statistical analysis was performed with Chi-square test and ANOVA.

RESULTS: Older patients have a high mortality after aSDH. A low GCS score (3-8), pupil abnormalities, the presence of contusions and subarachnoid bleeding, midline shift $>$ aSDH thickness as well as a highly elevated ICP $>$ 40 mmHg are unfavorable factors in the prognosis of aSDH.

CONCLUSION: Patients with a GCS of 13-15 can be observed clinically (the expected outcome is very good). Comatose patients (GCS 3-8) with bilateral dilatation of the pupils should not be operated (very high mortality rate). If the GCS score is $<$ 13 and both pupils or only one are reactive to light and the midline shift $<$ 10 mm, surgery is indicated. If the midline shift is $>$ 10 mm and aSDH thickness $>$ midline shift, surgery is also indicated. If in the same patient group midline shift $>$ SDH thickness and ICP $>$ 40 mmHg, surgery is not indicated.

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