Aneurysmal Subarachnoid Hemorrhage Outcome in Elderly Patients

Hunt and Hess Stroke Scale is an independent factor related to the prognosis of elderly patients with severe aneurysmal subarachnoid hemorrhage ¹⁾.

Aneurysmal subarachnoid hemorrhage outcome in elderly patients are at high risk for poor functional outcomes. However, among those presenting with good Hunt and Hess Stroke Scale scores, youngerelderly patients (ages 60-65 years) tend to fare better than older-elderly patients (ages >65 years). Elderly patients presenting with high-grade aSAH fare poorly regardless of age, which can inform clinical decision-making and prognostication ².

The purpose of a study of Goldberg et al., from Inselspital, was to provide survival and outcome data to support clinicians making decisions on treatment for this subgroup of patients.

They performed a retrospective analysis of the Bernese SAH database for poor-grade (World Federation of Neurosurgical Societies grade IV and V) elderly patients (age \geq 60 years) suffering from aSAH admitted to the institution from 2005 to 2017. Patients were divided into 3 age groups (60-69, 70-79, and 80-90 years).

Survival analysis was performed to estimate mean survival and hazard ratios for death. Binary logarithmic regression was used to estimate the odds ratio for favorable (modified Rankin Scale score of 0-3) and unfavorable (modified Rankin Scale score of 4-6) outcome. Results- Increasing age was associated with an increased risk of death after aSAH. The hazard ratio increased by 6% per year of age (P<0.001; hazard ratio, 1.06; 95% CI, 1.03-1.09) and 76% per decade (P<0.001; hazard ratio, 1.76; 95% CI, 1.35-2.29). Mean survival was 56.3±8 months (patients aged 60-69 years), 31.6±7.6 months (70-79 years), and 7.6±5.8 months (80-90 years). Unfavorable outcomes 6 to 12 months after aSAH were strongly related to an older age. The odds ratio increased by 11% per year of age (P<0.001; odds ratio, 1.11; 95% CI, 1.05-1.18) and 192% per decade (P<0.001; odds ratio, 2.92; 95% CI, 1.63-5.26). Conclusions- Risk for death and unfavorable outcome increases markedly with older age in elderly patients with poor-grade aSAH. Despite high initial mortality, treatment resulted in a reasonable proportion of favorable outcomes up to 79 years of age and only a small number of patients who were moderately or severely disabled 6 to 12 months after aSAH. Mean survival and proportion of favorable outcomes decreased markedly in patients older than 80 years³.

It is also important to investigate the critical age for defining a higher risk population among elderly patients and the clinical grade at admission in order to provide a prognostic description and help guide the management of patients aged \geq 70 years.

A retrospective study included 165 patients aged 70-90 years who underwent surgical or endovascular treatment for a ruptured aneurysm. In addition to medical and radiological data,

telephone interviews were used to obtain the 1-year functional outcome.

Multivariate analysis revealed age (p = 0.001) and the World Federation of Neurological Surgeons (WFNS) grade (p = 0.001), regardless of the treatment modalities (surgical versus endovascular), as significant risk factors for a poor outcome, while a receiver operating characteristic analysis revealed 75 years as an appropriate cutoff value for the patient age to predict a poor 1-year functional outcome (area under the curve: 0.683). For the patients aged 70-75 years with good (1-3) and poor (4-5) WFNS grades, 81.9 % and 42.9 % achieved a favorable outcome (modified Rankin Scale 0-3), respectively, whereas for the patients over the critical age (> 75 years) with good and poor WFNS grades, 54.8 % and 5.9 % achieved a favorable outcome, respectively.

The long-term outcome for elderly patients with an aneurysmal SAH is affected primarily by the clinical condition at admission and the patient's age in relation to the critical age (> 75 years), regardless of the treatment modalities, including surgical clipping and endovascular coiling ⁴.

References

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