

Mortality and outcome of patients over 80 years surgically treated for chronic subdural hematoma

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Abstract

Introduction

Chronic subdural hematoma (cSDH) is frequently seen within the elder population. Due to the worldwide aging of the population, neurosurgeons are often confronted with patients above the age of 80 years presenting with symptomatic cSDH. However, data on the outcome of cSDH treated by burr-hole drainage (BHD) in this specific population is scarce. The aim of this study is to analyze the mortality and outcome after a burr-hole drainage of cSDH in patients above the age of 80 years.

Methods

Single center retrospective study including patients undergoing BHD of cSDH between the years 2016 and 2019. The cohort was divided into three groups according to the age (group 1 80-84 years; group 2 85-89 years; group 3 >90 years) and compared for all outcome measures. Primary outcome was 30-day- and overall mortality, while secondary outcome measures were recurrence rates, postoperative bleeding rates and outcome measured by the modified ranking scale (mRS). Uni- and multivariate analysis was further conducted to assess for potential risk factors for mortality, recurrence and postoperative bleeding rates.

Results

We included 107 patients with 29% men and a mean age of 85.5 ± 3.9 years. Mortality rate was 3.7% in group 1, 10% in group 2, 9.5% in group 3, showing no significant difference ($p=0.455$). Similarly, no significant difference in recurrence rates and postoperative bleeding rates were seen ($p=0.491$; $p=0.532$, respectively). MRS at release differed significantly between the groups (2.55 ± 1.15 group1, 3.21 ± 1.03 group 2, 3.1 ± 1.14 group 3; $p=0.005$), while at follow up no difference in mRS was seen between the groups ($p=0.096$). After uni- and multivariate analysis, age was not correlated with higher recurrence, postoperative bleeding, or mortality rates. Preoperative midline shift was found to be an independent risk factor for recurrence after BHD of cSDH in patients older than 80 years, while potential risk factors for mortality or postoperative bleeding were not seen.

Conclusions

In patients above the age of 80 years undergoing BHD for cSDH, age was not directly correlated with higher recurrence, postoperative bleeding, or mortality rates. Preoperative midline shift was found to be an independent risk factor for recurrence after BHD of cSDH in patients older than 80 years.