

Title: Who survives ICU? An analysis of 663 consecutive patients with aneurysmal subarachnoid haemorrhage admitted to a tertiary neurosurgical intensive care unit.

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Introduction
Aneurysmal subarachnoid haemorrhage (aSAH) has a high morbidity and mortality. Previous studies have identified predictors of poor functional recovery and in-hospital mortality but not mortality within the intensive care unit (ICU).

Background/ objectives
The aim of this study was to establish the mortality of patients with aSAH within the ICU and determine independent predictors of ICU mortality.

Methods
All patients with aSAH admitted to a regional neurosurgical ICU between 2011 and 2018 were reviewed using data from the Intensive Care National Audit and Research Centre database and by reviewing patient records.

Results and Conclusion
The median age (interquartile range, IQR) of 663 consecutive patients with aSAH was 59 (18). 72% of patients were female. The overall mortality in ICU was 17.6%. 84% of patients underwent endovascular coiling. 56% presented with WFNS Grades 1-3 and 44% Grades 4-5. CSF diversion was performed in 49% of patients. Median (IQR) ICU length of stay (LOS) was 4.85 (7.8) days and hospital LOS was 17 (13) days.

WFNS grade 4-5 was predictive of mortality. Age was not, and male gender was borderline predictive (p= 0.06). The requirement for CSF drainage was significantly higher (p=0.003) in the group that died on ICU, however was not an independent predictor of mortality in multivariate analysis. Anatomical location and number of aneurysms were not predictive of ICU mortality.

This study shows that the mortality of aSAH remains high. Worse WFNS grade at presentation remains the clearest predictor of mortality. Increasing age does not affect ICU mortality.
(249 words)

Biography

Andrew Baird graduated from the University of Edinburgh Medical School in 2012. He is currently completing his training in anaesthesia and intensive care in the United Kingdom and is spending this

year in intensive care at the Royal Melbourne Hospital, Australia. He is also a member of the Royal College of Physicians, UK. He has an interest in prognostication in critical illness and has previously published on the value of early warning scores in sepsis.

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