Spontaneous SAH in the Elderly
- A single center retrospective review

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Disclosures

• I have no relevant financial relationships to disclose.
Introduction

- Elderly patients presenting with aneurysmal subarachnoid hemorrhage is increasing as our local population ages

**Objective:**
- To investigate the functional outcome of aneurysmal SAH in the geriatric population
Methods

• Single-center retrospective review
• Consecutive elderly patients with ruptured intracranial aneurysms (age>70)
• Treated from Jan 1st, 2006 to Oct 31st, 2016
• Clinical Data Analysis and Reporting System (CDARS)
• Aneurysm confirmed by CTA
• Joint treatment decision with Endovascular team; 1) endovascular 2) neurosurgery
• At least 12 months follow-up
Results

19 treated conservatively (35%)
All dependent or dead on discharge
-- mRS 5 : 6 (31.5%)
-- mRS 6: 13 (68.5%)

Outcome of Elderly SAH Improves with Time

- Increasing proportion of elderly becoming independent at 12 months
- Recovery after SAH extends over a long period of time

mRS at different time intervals (% with favourable recovery)
Primary Outcome

- Dependency or death at 1 year (mRS 3-6)

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<th>Independent (50%)</th>
<th>Dependent (50%)</th>
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<tbody>
<tr>
<td>Embolization</td>
<td>15</td>
<td>11</td>
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<tr>
<td>Clip</td>
<td>2</td>
<td>6</td>
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- $P = 0.225$ (non-significant)
- No difference in disability-free survival at 1-year between endovascular and clipping
Strongest Predictors for an Unfavourable Outcome (at 12 months)

- Predictors with significant effect on outcome identified in univariate analysis
  - Poor grade SAH (WFNS IV or V) \( (p = 0.024) \)
  - EVD insertion \( (p = 0.016) \)
  - Tracheostomy \( (p = 0.017) \)

- Then, carried out stepwise forward multivariate logistic regression analyses
  - Poor grade SAH, OR 6.487, 95% CI \( (1.078 – 39.032) \), \( p = 0.041 \)

- The odds of having an unfavourable outcome is 6.5 times greater if presenting with poor grade SAH
Subgroup Analysis: Poor Grade SAH

- **At 1 year,**
  - Favorable outcome only achieved in 2/21 (9%) with embolization
  - Overall mortality: 71% (15/21)
  - High-dependency: 19% (4/21)

- **Poor overall outcome in poor-grade elderly aneurysmal SAH**
Discussion

- Worthwhile to treat elderly (>70) aneurysmal SAH if admitted in good neurological condition
  - Poor grade SAH - strongest predictor of dependency or death \( (p=0.041) \)
  - Unfavorable outcome in poor grade SAH – 91%
  - Re-rupture more common in conservative group \( (8/19(42\%) \text{ vs. } 3/34 \text{ (9\%); } p = 0.004, \text{ OR } 7.5) \)

- Rehabilitation in SAH extends over a long period of time
  - More disability-free survival with time

92/female
GCS 15
Coil embolization
mRS on discharge: 5
mRS @ 1 year: 5
Conclusion

- Elderly patients with good grade SAH can be treated successfully

- Majority of poor grade SAH result in unfavourable outcome

- Careful selection of patients to reduce unfavourable outcome