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Surgical Treatment of Spontaneous Supratentorial Intracerebral Hemorrhage in Sweden 2011-2015

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Spontaneous Supratentorial ICH is a Common Neurosurgical Problem!!!

- Spontaneous supratentorial ICH incidence is 20 cases per 100 000 population
- Whether surgery improves the outcome is a subject of intense debate
- The existing guidelines are quite generally formulated due to the lack of solid evidence

AHA/ASA Guideline

Guidelines for the Management of Spontaneous Intracerebral Hemorrhage

A Guideline for Healthcare Professionals From the American Heart Association/American Stroke Association

Guidelines

European Stroke Organisation (ESO) guidelines for the management of spontaneous intracerebral hemorrhage

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How We Do It!

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- The purpose is to elucidate potential differences in ICH treatment and surgical indications among the neurosurgical centers in Sweden
- Retrospective study
- All patients surgically treated for spontaneous supratentorial ICH in Sweden between the years 2011-2015
- Primary end-point: 30-day mortality

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Sweden

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- Six Neurosurgical Centers
  - Skåne University Hospital in Lund (1,8 million)
  - Sahlgrenska University Hospital in Gothenburg (1,8 million)
  - Linköping University Hospital (1,0 million)
  - Karolinska University Hospital in Stockholm (2,3 million)
  - Uppsala University Hospital (2,0 million)
  - Umeå University Hospital (0,9 million)
- Homogenous tax-funded health care system, ensuring everyone equal access and right to health care services

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Results 2011-2015

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- 577 patients were treated surgically
  - 401 with craniotomy and hematoma evacuation
  - 176 with external ventricular drainage (EVD) alone
- Incidence
  - Craniotomy and hematoma evacuation was 0,8/ 100 000
  - EVD alone was 0,4 / 100 000

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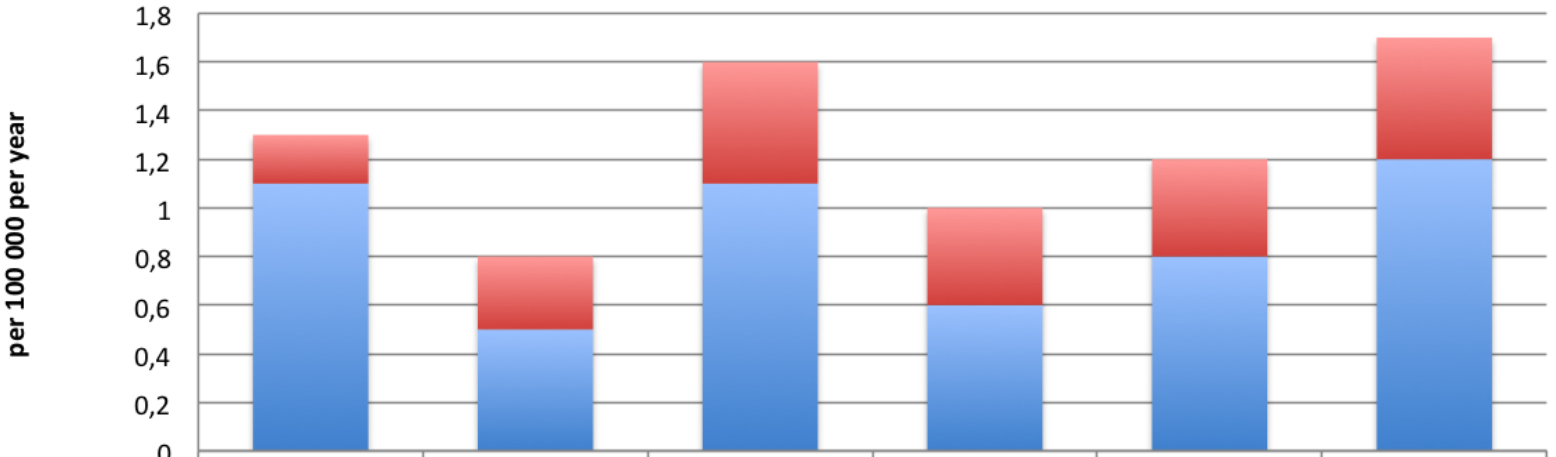
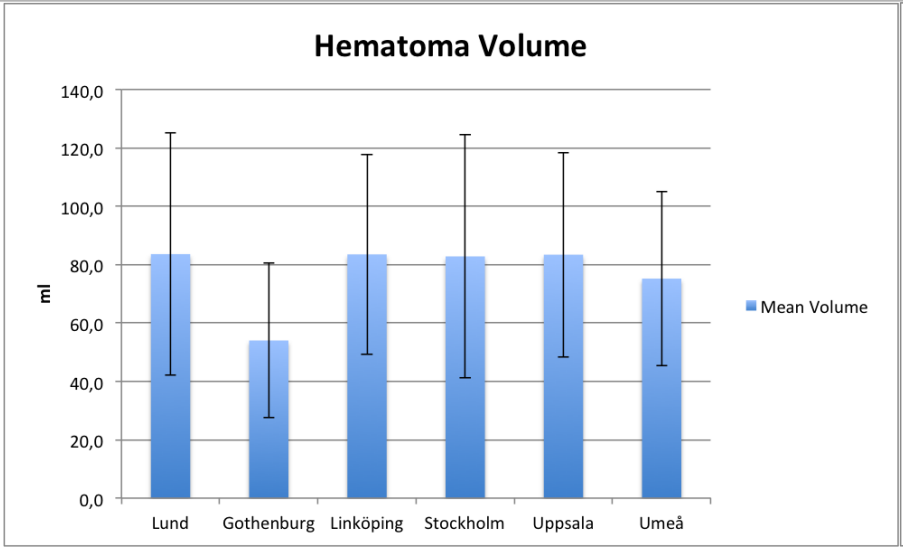
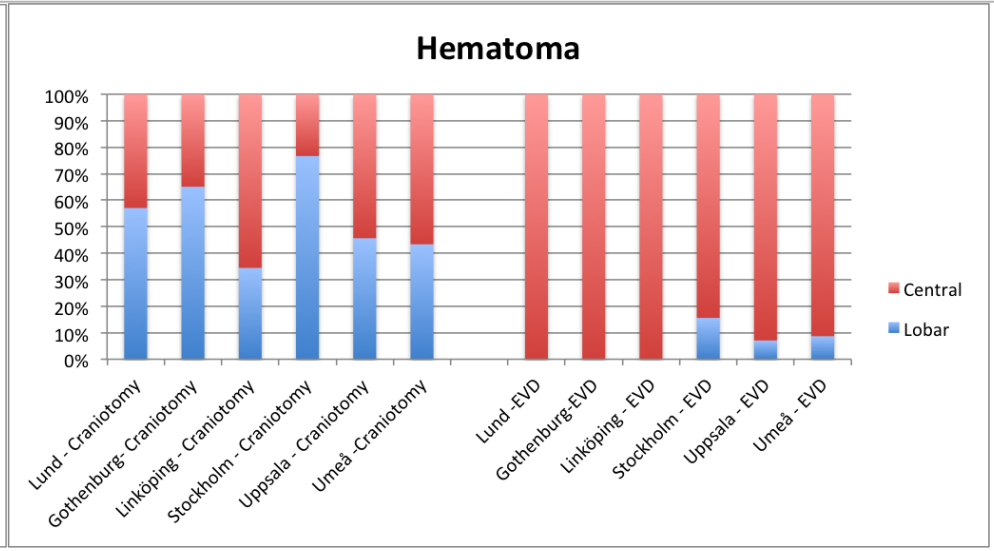
Surgically Treated Supratentorial ICH in Sweden Between 2011-2015



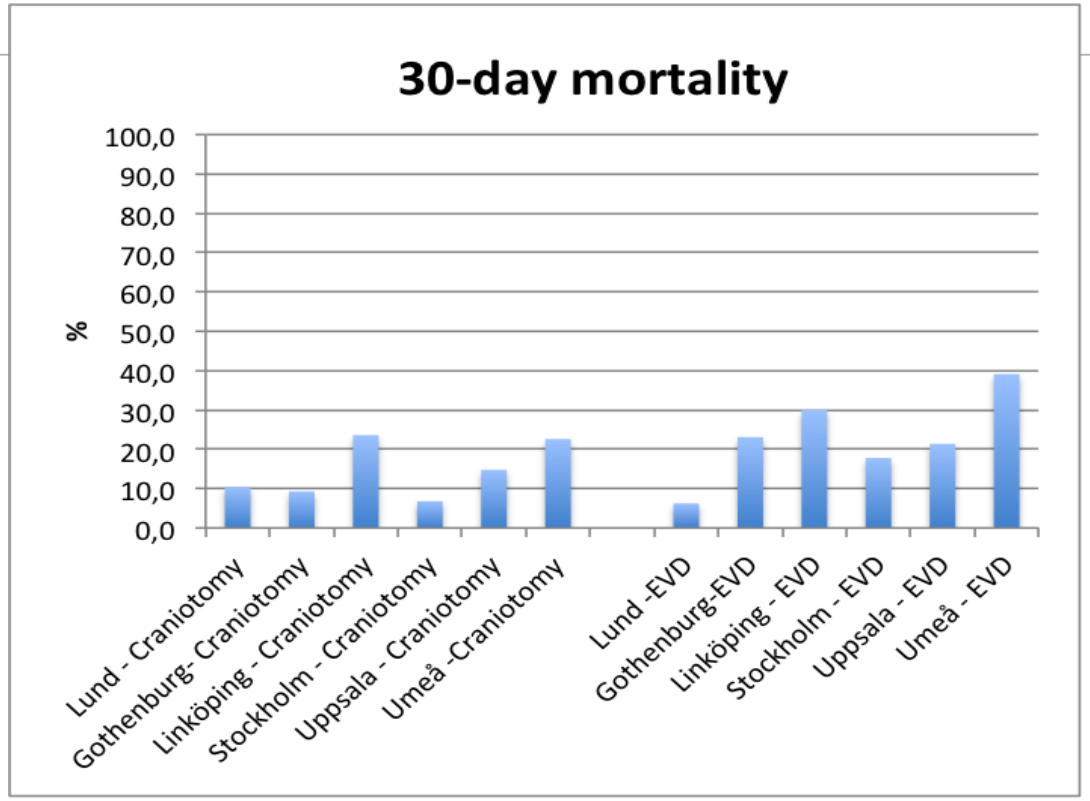
	Lund	Gothenburg	Linköping	Stockholm	Uppsala	Umeå
EVD	0,2	0,3	0,5	0,4	0,4	0,5
Craniotomy	1,1	0,5	1,1	0,6	0,8	1,2

- The number of patients treated at the different centers is similar when adjusted for the size of the population
- The majority of the patients are treated with craniotomy and hematoma evacuation





- The average hematoma volume are similar in patients treated with craniotomy and hematoma evacuation
- Both central and lobar hematomas are operated with craniotomy and hematoma evacuation in contrast to EVD treatment alone, almost entirely used in central hematomas



- 30-day mortality is comparable and the small variations may be explained by the small number of patients at some of the centres.

- To conclude
  - despite rather vague guidelines for surgical ICH evacuation, there was a surprising homogeneity of indications, post-operative management and patient outcome when comparing surgical ICH treatment in all Swedish neurosurgical centers over a 5-year period.

Thanks!

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