Long-Term Results Of Transfemoral CAS Are Equivalent To Those Of CEA – Maybe Even Better

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Let's look at the randomized trials

- CAVATAS
- SAPPHIRE
- EVA-3S
- SPACE
- ICSS (CAVATAS-2)
- CREST
- ACT-1
- ACST-2

CAVATAS
504 symptomatic pts, randomized to CEA or PTA (Stents only in 25%)

<table>
<thead>
<tr>
<th></th>
<th>PTA</th>
<th>CEA</th>
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<tbody>
<tr>
<td>Major stroke/death</td>
<td>6.4 %</td>
<td>5.9 %</td>
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<tr>
<td>Stroke/death</td>
<td>10 %</td>
<td>10 %</td>
</tr>
</tbody>
</table>
| Cranial nerve palsy    | -     | 9 %   | *
| Hematoma               | 1.2 % | 6.7 % | *
| MI                     | 0 %   | 0.8 % | *

* P < 0.05

CAVATAS: Survival free of disabling stroke or death

But 9% cranial nerve palsy

PTA / Stent
Endarterectomy

CAVATAS : Survival free of stroke: 8 year FU

Long-term outcome absolutely identical!

P. Gaines

Disclosures

Physician name: Horst Sievert
Relationship: Study honoraria to institution, travel expenses, consulting fees to institution
Sapphire 1 Year
Primary End-point: Death, Stroke, MI

P=0.05
Surgery 20.1%
Stent 12%

3 "negative" studies
- EVA 3S
- ICSS
- SPACE

EVA-3S Primary Endpoint 30 d
Carotid Stenting vs Endarterectomy

<table>
<thead>
<tr>
<th>Endpoint</th>
<th>Relative Risk ± 95% CI</th>
<th>CEA (n=259)</th>
<th>Stenting (n=261)</th>
<th>RR (95% CI) unadjusted</th>
<th>p-value</th>
</tr>
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<tbody>
<tr>
<td>Death</td>
<td>1.2%  0.8% - 0.7 (0.1-3.9)</td>
<td>0.8%  0.7 (0.1-3.9)</td>
<td>0.68</td>
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<tr>
<td>Stroke</td>
<td>2.7%  8.8% - 3.3 (1.4-7.5)</td>
<td>8.8%  3.3 (1.4-7.5)</td>
<td>0.004</td>
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<tr>
<td>Death/Stroke</td>
<td>3.9%  9.6% - 2 (1.2-5.1)</td>
<td>9.6%  2 (1.2-5.1)</td>
<td>0.01</td>
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We all know that the stent operators had very limited experience.
EVA 3S – Results up to 4 yrs

During long-term: Curves are parallel!

ICSS
Interim analysis: stroke, death, or procedural myocardial infarction

"Negative trial!"

ICSS 4 years results
Lancet 2014

- Clinical outcome not different between surgery and stent
- Slightly more re-stenoses after stent but no increase in stroke risk
- Quality of life not different
- The decision "Surgery or Stent" should be made individually!

SPACE
Primary Endpoint: Ipsilateral Stroke and Death @ 30 Days

SPACE-1 2 yrs FU

CLINICAL TRIALS UPDATES
Thomas L. Herba, MD, Section Editor

Two-year follow-up results of the SPACE study

Increased restenosis rate in the stented patients – relevance unclear
**CREST Composite Primary Endpoint**

(any stroke, MI, or death within peri-procedural period plus ipsilateral stroke thereafter)

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<th>CAS (%)</th>
<th>CEA (%)</th>
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<tbody>
<tr>
<td></td>
<td>7.2</td>
<td>n.s.</td>
</tr>
<tr>
<td></td>
<td>6.8</td>
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</table>

Brott et al. @ International Stroke Conference 2010

**CREST 10-Year Event-Free Survival**

ACT-1

- Asymptomatic stenoses
- < 80 yrs
- High risk surgery and high risk stenting excluded
- 1453 patients randomized (2:1 stent: CEA)
- Endpoint: 30 day death, stroke, MI, ipsilateral stroke day 31-365


**ACT-1**

- Asymptomatic stenosis
- 2125 pts randomized until March 2016
- Preliminary acute results:
  - 30 days disabling/fatal stroke or fatal MI in both groups: 1%


**ACST-2**

- Asymptomatic stenosis
- 2125 pts randomized until March 2016
- Preliminary acute results:
  - 30 days disabling/fatal stroke or fatal MI in both groups: 1%
In most randomized trials there was no clinically relevant difference between surgery and stent ... 

... especially not during long-term FU!

Therefore, it is much more important to evaluate the individual risk factors for both, surgery and stenting.

We did not yet talk about ...

... the improvement in CAS technology

- Proximal protection
- Micro-mesh stents
- Double filtration
- All these were not available in the randomized trials!

CAS is as good as CEA, maybe even better!

Especially long-term!

Thank you for these 4 minutes.