META-ANALYSIS COMPARING RESULTS OF SUPERA VS. DRUG ELUTING STENTS FOR SFA LESIONS: WHICH IS BEST AND WHEN

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Evidence in medicine

<table>
<thead>
<tr>
<th>RCTs</th>
<th>Real-world studies</th>
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<tbody>
<tr>
<td>Randomized</td>
<td>Observational</td>
</tr>
<tr>
<td>Controlled selection criteria</td>
<td>No or broad selection criteria</td>
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<tr>
<td>Study specific interventions</td>
<td>No study specific interventions</td>
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<tr>
<td>Hypothesis driven</td>
<td>Hypothesis generating</td>
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<tr>
<td>(Relatively) small population</td>
<td>Large population</td>
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<tr>
<td>Fixed timeframe</td>
<td>Long timeframe</td>
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<tr>
<td>Powered</td>
<td>Flexible</td>
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Prospective validity
External validity
Generalizable

1-year SFA results (%)

Vascular Restenosis
Freedom from TLR

Baseline risk adjusted random effects mixed treatment comparison


Broad systematic review & meta-analysis of SFA stents

- ‘All-comers’ parametric survival analysis
- Medline, Scopus, archived online material
- Randomized and single-arm studies
- Primary outcome: Freedom from restenosis
- Secondary outcome: Freedom from TLR
- Stratify by stent type: SUPERA, DES, VIABAHN, nitinol (PTA and DCB in the future)
- Exponential survival curve fitting – random effects – regression of moderators

SUPERA interwoven stent
20 studies (2011-2018)
2341 limbs analyzed
Weighted lesion length 13.4 cm

ZILVER-PTX paclitaxel stent
17 studies (2011-2018)
4263 limbs analyzed
Weighted lesion length 14.0 cm

VIABAHN covered stent
28 studies (2000-2017)
1914 limbs analyzed
Weighted lesion length 16.7 cm

**SUPERA analysis (n=2,341)**

**ZILVER-PTX analysis (n=4,263)**

**VIABAHN analysis (n=1,914)**

![Exponential survival model (example: VIBRANT RCT)](image1)

![Identified studies](image2)

![Primary Patency](image3)
Median patency (months)

- 49 (95% CI: 45-55)
- 32 (95% CI: 28-38)
- 22 (95% CI: 20-24)

P=0.03
P=0.049
P=0.01
‘All comers’
parametric meta-analysis

1. Useful exploratory model for real-world data
2. SUPERA seems to perform better than DES
3. Patency results vary on covariates
4. Future work: Include nitinol stents, DCBs, etc
5. Model more moderator variables

Exponential survival model
example: VIASTAR RCT

Stents: 12-month primary patency