A dissection-specific stent graft to prevent distal Stent-graft Induced New Entry (dSINE)

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I have the following potential conflicts of interest to report:

- [ ] Consulting
- [ ] Employment in industry
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  - Chronic \textit{(vs acute)}
  - Marfan patients
  - Short SG \textit{(length <145-165 mm)}
  - Distal oversizing
  - Non-tapered

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dSINE; a stress induced injury
Modified Cook alpha dissection-specific SG

Uppsala design (not freely available)

No proximal barbs

Substantial taper

Two distal stents with reduced radial force

Final stent removed “endovascular elephant trunk”
W 51 y/o Marfan syndrome
post typ-A dissection repair
Arch branch device + Uppsala dissection-specific SG

- Distal stent
- Distal graft
Aneurysm formation

Transposition of supra-aortic vessels + TEVAR

5 years later: dSINE
W 51 y/o, Marfan syndrome
previous ascending aortic repair

CTBAD > 6 cm
Arch-fen TEVAR
Uppsala-stent
M 70 y/o
Type A dissection → ascending graft + arch hybrid (Evita)
Conclusion

• dSINE is a common and dangerous complication

• dSINE is a stress induced injury with distal oversizing as the most important risk factor

• Dissection-specific SG:
  – Substantial taper
  – Minimal radial force

• Uppsala SG:
  – Limited single-center experience
  – Next step: multicenter expansion