Retrograde aortic dissection after TEVAR:
Incidence, Risk Factors, Precautions and Treatment

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Disclosure of Interest

- I do not have any potential conflict of interest
MOTHER Database and Pooled Studies

• **Incidence of RTAD:** 1.6% in MOTHER. The incidence of RTAD has dramatically increased after 2010: 1.49% until 2010 and 2.27% after 2010

• **Time to RTAD:**
  - intraoperatively 20.9%
  - < 30 POD 50%
  - >30 POD 29.1%

• **RTAD 30-day mortality** 33.6%-52%

_Eggbrecht, Circulation 2009_  
_Canaud, Ann Surg 2014_
Risk Factors

- Relationship of RTAD to Indication for TEVAR
  - (2.8 vs 1.9%, $P = 0.1298$).
    - Acute aortic dissection, 8.4% OR 10
    - Chronic dissection, 3% OR 3.4
    - Degenerative aneurysm 0.7%

- The incidence of RTAD was not different with proximal bare stent and non-bare stent endografts
Risk Factors

• **Stent Graft Oversizing**: each 1% oversizing increase above 9% led to an increase in OR of RTAD by 1.14 (P < 0.0001).

• **Proximal Landing Zone and RTAD**
  - 6.8% in zone 0,
  - 2.4% in zone 1,
  - 4.1% in zone 2, and
  - 1.3% in zones 3 and 4
Precautions

- Superactue TBAD
- Device oversizing
- Zone 0 or hybrid arch repair
- Proximal bare stent design
- Ballooning
- Type I endoleak
- Disease progression
Conclusions

- RTAD is Rare
- Incidence is less now despite increase in use of TEVAR for TBAD
- Can not really predict but can avoid in certain anatomical and clinical scenarios
- Double the mortality rate of TAAD so.. BEST TO AVOID