Tips & Tricks For Avoiding Pitfalls in The TEVAR of TBADs: Based on Experience in 2173 Patients

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Disclosure

Speaker name:
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I have the following potential conflicts of interest to report:

☐ Consulting
☐ Employment in industry
☐ Stockholder of a healthcare company
☐ Owner of a healthcare company
☐ Other(s)

☒ I do not have any potential conflict of interest
Background

- 2000-2014, TEVAR 2173
- Age 54 ± 13; range 31-84
- Man 1927; Woman 246
- Chimney 37; Cervical bypass 34; Visceral bypass 21
- Acute/subacute 1428; chronic 745
- Technical success 98.5%
Outcomes

- 30d Mortality: 1.8%
- Spinal cord ischemia 0.6%
- Thoracic FL Thromb: 72%
- Abdominal FL patent: 64.3%
- Persistent type I Endoleak: 7.4%
- SINE 6.5%: Prox 3.18%; Dist 3.32%

@12M
Pitfall 1 is how to reduce Type I endoleak?

For the short proximal landing zone, the location of the stent-graft is very important.

We need to notice not only the length of proximal landing zone, but also notice the shape of aortic arch.
Pitfall 1: prox anchoring, not only the length

Stent-graft includes two parts: stented segment and non-stented segment. For the shorter proximal landing zone, we suggest flexible non-stented segment is delivered on curving point of aortic arch, covering LSA and bypass to get optimized fixation and sealing.
put the stented segment on the curving point

migration
Pitfall 2: Misplacement of SG into the FL

Pre (This is type B aortic dissection patient. CTA showed there was a large tear in the aortic arch and TL is very narrow. CA, SMA and LRA are from FL)
Fortunately, free from FL enlargement and malperfusion
Three pitfalls in a single patient

➢ Pitfall 1
Small femoral A
Right 6.5mm, Left 5.8 mm

➢ Pitfall 2
“S”-shape tortuosity & kink at the aortic arch
Pitfall 3: TL occluded above the aortic Bif (in another hosp., failed to get through it)
The strategy we took is to take the Rt brachial approach first, cannulate the distal TL, here we can see Rt renal and SMA, both from TL.
laparotomy, infrarenal aorta transection

take the guidewire out

fenestration, bifurcated graft replacement,
anastomosis to Rt iliac BIF

cannulate the Lt graft limb
exchange for Lunderquist
deliver the endograft
anastomosis to Lt iliac BIF

advantages of such a strategy

- find a way for endograft introducing, avoiding the small femoral A & occluded TL
- shorten the delivery length, overcoming the arch tortuosity
- remove the iliac aneurysm
This is the Lunderquist wire placed through the left limb of the bifurcated graft, after deployment, the entry was successfully repaired.
pre

TL occluded

Rt renal (TL)

Lt renal (FL)

Post (Left renal artery from FL perfused by the backflow through the fenestration)
at 36 M

FL complete thoracic thromb

abdominal fenestration assures the visceral perfusion
Summary

- Although TEVAR for type B dissection generally appears to be technically straightforward, morphological and technical pitfalls might result in big mistakes.

- Careful preoperative imaging evaluation and planning could be helpful to avoiding them.
Thank you
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