Early experiences of physician modified endograft (PMEG) for abdominal aortic aneurysm

Taeseung Lee, M.D.
Division of Vascular Surgery
Seoul National University Bundang Hospital, South Korea
Disclosure

Speaker name: .................................................................

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
PMEG in Korea

- Company-manufactured devices (CMDs) are not available now and will not be come to Korea because of legal regulation.
- Some high risk patients unfit for open repair with short neck AAA
- Some emergent or urgent setting
• M/77
• C.C: abdominal pain & tenderness & fever (3 DA)
• Open AAA repair, left pararenal pus irrigation
• Sudden onset hypotension after early postop periods
  - CT Angio: Anastomosis site bleeding > Aortic stent graft (both renal artery coverage with retrograde ilio-rt renal bypass with PTFE)
- F/U CT (16-1-21)
  - both renal infarct
- Living but HD state
First case – renal scallop
PMSG – single renal fenestration
PMSG - single renal fenestration
Case #8
Planning

- 8th Oct. 2018: Male / 78y
- CT Analysis
  - 2.0mm Cuts
- Graft Design
  - Zenith Flex-ZT Mainbody (36mm-131mm)
  - 3FEN.
  - Celiac a. & SMA: 1 FEN.
  - Both Renal a.: 2 FEN.
Centerline-of-Flow Analysis

- Set New Proximal Edge
  - 13mm above a Celiac a.
- Measurement (form the New PE)
  - Center of Celiac a. & SMA length
  - Center of both Renal a. length
  - L1 (New PE ~ Aorta Bifurcation) length
  - Proximal Neck Diameter
  - Celiac a & SMA Diameter
  - Both Renal a. Diameter
  - Clock Positions
Fenestrated Diameter & Clock Positions

- Measure all fenestrated arteries based off CT axial view
  - Celiac a. & SMA
  - Both Renal a.
PMEG Design

Below 23mm
25 Degree

Below 44mm
Dia. : 10mm
53 Degree

Below 50mm
Dia. : 11mm
100 Degree
Case #9 Planning

• 17th Dec. 2018 : Male / 77y
• CT Analysis
  - 2.0mm Cuts
• Graft Design
  - Zenith Flex-ZT Mainbody (36mm-131mm)
  - 3FEN.
  - Celiac a. & SMA : 1 FEN.
  - Both Renal a. : 2 FEN.
PMEG Design
1\textsuperscript{st} (Proximal) Trigger wire

- Can control device during deployment
  - Deploy exactly at the position where you want
  - Prevent graft moving during deployment
  - Can do something when there is trouble

2\textsuperscript{nd} (Distal) Trigger wire
Inadvertent 2\textsuperscript{nd} trigger wire removal before top cap deployment
Personal experiences

- Feb 2016 – Jan 2018
- Fenestrated EVAR: 10 cases
  - short neck in 1
  - type Ia endoleak after EVAR in 1
  - contained rupture in 2
  - mycotic aneurysm in 1
- One misalignment – 1 kidney loss
- No mortality
- No occlusion of branch vessel
- Re-intervention in 2
  - 1 early open conversion (other service)
  - 1 late open conversion (rupture) for sac growing
Summary & Conclusion

• PMEG can resolve the unmet needs of commercial fenestrated/iliac-branched devices in Korea
  – unavailability or high risk of rupture
• Technically feasible, but requires meticulous planning and preparation of a full set of toolbox
• Long term durability is still to be determined.
Thanks for your attention
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