Long-term outcomes of CERAB

Michel M.P.J. Reijnen
Department of surgery, Rijnstate, Arnhem, and the Multi-Modality Medical Imaging Group, University of Twente, Enschede, the Netherlands

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Disclosure

Speaker name: Michel Reijnen

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
• Meta-analysis on 605 patients
  • 81% primary patency at 2-year
  • 84% intermittent claudication
  • 53% TASC A & B

• Patency affected by geometry:
  • Radial mismatch
  • Differences in stent conformation
  • Protrusion length of the stents in the distal aorta

Covered Endovascular Reconstruction of the Aortic Bifurcation - CERAB

Goal: to provide a more anatomical and physiological endovascular reconstruction of the aortic bifurcation
CERAB and BM kissing stents; Mostly laminar flow throughout the cardiac cycle

BM Kissing stents; turbulence and recirculation at phases B and C

CERAB
Laser Particle Image Velocimetry

October 2010 – May 2020
160 elective patients
Age 62 ± 10 years, 79 male
Chimney and acute procedures excluded
Previous intervention for AIOD in 63 patients (28%)
  76.3% endovascular
Technical success achieved in 96%

Rutherford classification:
- 1 n=1 0.6%
- 2 n=19 11.9%
- 3 n=101 63.1%
- 4 n=20 12.5%
- 5 n=17 10.6%
- 6 n=2 1.3%

TASC -II classification:
- A n=1 (0.6%)
- B n=24 (8.8%)
- C n=12 (7.5%)
- D n=133 (83.1%)

Long-term outcomes of CERAB

- **Overall 5-year patency rates;**
  - Primary patency 78%
  - Assisted primary patency 88%
  - Secondary patency 95%

- **TLR rates at 5-year**
  - Freedom from all TLR 80%
  - Freedom from CD-TLR 84%

- **Clinical outcomes**
  - Improvement in Rutherford category 98%
  - Freedom from major limb amputation 100%
Long-term outcomes of CERAB

Rutherford classification over time

- Major tissue loss
- Minor focal tissue loss
- Ischemic rest pain
- Severe claudication, walking distance <200m
- Moderate claudication, walking distance >200m
- Mild claudication, walking distance unlimited
- Asymptomatic

Ankle-brachial index through 5-year follow-up

P compared to baseline for all follow-up moments < 0.001. No significant differences between other timepoints.
Long-term outcome of CERAB

Primary versus secondary treatment

Previous intervention in the aorto-iliac tract is a significant predictor of loss of primary patency (OR=5.36 (95% CI:1.30; 22.07), p=0.020)

Primary patency

85.1% versus 58.5%

Assisted primary patency

94.4% versus 72.2%

Secondary patency

96.9% versus 87.2%

Long-term outcome of CERAB

Choice of BE covered stent

The total number of stents used
- 3 in 71 patients  46%
- 4 in 22 patients  14%
- 5 in 31 patients  20%
- >5 in 29 patients  19%

Used type of stents
- Only Atrium Advanta™ V12 in 97 patients  63%
- Only BeGraft® in 31 patients  20%

No significant differences in patency rates between Atrium Advanta™ V12 and BeGraft® CERAB reconstructions.
Summary

• Clinical and technical outcomes of CERAB are good through 5-year follow-up, particularly in primary cases

• Previous aorto-iliac treatment is an independent risk factor for loss of patency after CERAB

• Different balloon-expandable stents seem to provide comparable outcomes at the long-term
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