Stenting angulated aortic aneurysm neck before endovascular aortic repair: a case report

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Disclosure

Speaker name:

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☐ I do not have any potential conflict of interest
How to measure aortic neck angulation?

The best answer

Validation of a new standardized method to measure proximal aneurysm neck angulation

Jasper W. van Keulen, MD, Frans L. Moll, MD, PhD, Jip L. Tolenaar, MD, Hence J. M. Verhagen, MD, PhD, and Joost A. van Herwaarden, MD, PhD, Utrecht and Rotterdam, The Netherlands
The answer is

- A center lumen line (CLL) of the aorta was made, and a three-dimensional (3D) aortic reconstruction was obtained. The 3D reconstruction was turned 360° perpendicular to the CLL in the middle of the flexure. The sharpest angle of the CLL was considered the true angle of the aortic axis.
- There are three axis
  1. Supra-renal aorta
  2. Aortic neck
  3. Aortic sac
Does the angle changes after EVAR?

Yes
The infra-renal aortic neck angle changed immediately during the EVAR procedure, due to multiple factors, such as passage of the guidewire, the stent graft delivery system, and radial force of the stent graft. Only radial force of the stent affected aortic angle slowly and continuously after the EVAR procedure.
What happen if :

In angulated aortic neck
After EVAR
Putting self expandable Stent
Post EVAR self expandable stent straighten the neck
What if stenting done before EVAR?

Case report

Stenting Angulated Aortic Aneurysm Neck before Endovascular Aortic Repair: a case report
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To the best of my knowledge this is the first time to report a prophylactic self expandable nitinol stent in severe angulated neck for remodeling. Palmaz and Ev3 Max balloon expandable stents has been reported before but not self expandable one. We think this technique lower the aortic neck angulation and decrease the secondary intervention rate in short term results.
Difficult angle

Line of suprarenal aorta

Aneurysm neck

Line of Aneurysm sac
Mid-Term Results of EVAR in Severe Proximal Aneurysm Neck Angulation

WHAT THIS PAPER ADDS
Proximal neck angulation is a risk factor for adverse events following endovascular aneurysm repair (EVAR). The first study to assess mid-term outcomes and morphology changes in the proximal neck in patients with severely angulated proximal neck treated with a late-generation endograft is presented. This study shows that clinical outcome following EVAR in patients with severe proximal neck angulation is not significantly different from those patients with more favorable proximal anatomy.
Take home message

• We must standardize how we report Aortic neck angulation
• In expert hands, Angulated necks can give similar results to straight neck
• Pre deployment of self expandable stent before EVAR can improve our results
سورة الذاريات

وَفِي أَمْوَالِهِمْ حَقًّا لِّلسَّاِبِيلِ وَالْمُحْرُومِ ۙ وَفِي الأَرْضِ أَيْنَ ۡيَا ۖ لِلْمُوقِينِ ۖ وَأَنفِسَكُمْ أَفْلَى بِعَصْرِكُمْ ۙ وَفِي السَّمَاءِ رَزَقْكُمْ ۙ وَمَا نَعْدُونَ ۚ فَوْرُبُ السَّمَاءِ وَالأَرْضِ إِنَّهُ لَحَقٌّ مَّثْلُ مَا أَنْتُمُ ۖ
Thank You
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