Is Endovascular Treatment Of The Aortic Valve And Root Feasible (An Endo-Bentall Procedure): Where Does It Stand?

Ali Khoynezhad MD, PhD, FACS
Director of Cardiovascular Surgery
MemorialCare Heart & Vascular Institute
Los Angeles, CA

No financial Interest!

No financial Interest! YET...

I have a competitive and effective patent in the arena!

My disclosure: optimist!
Many aortic pathologies amenable to Endo-Bentall?
Not currently! But most probably soon!

Advances in Endovascular Treatment of the Ascending Aorta
• most common technology: off-label stent grafts
• increased overall experience
• new devices involving arch
• better wires and catheters
• TAVR experience
• most pathologies treated
• more imaging modalities used
• remodeling is established

Yours Sincerely – Omaha 2007
Yours Sincerely – Los Angeles 2014
First Physician-Sponsored IDE:
Ascending Aortic Stent graft
National Co-PIs: White/Khoynezhad

Current PS-IDE Ascending Experience
- 48 patients with ascending TEVAR since 2006;
- 11 patients entered for the PS-IDE:
- one early mortality, no early open conversion
- 100% technical success (delivery and deployment)
- 1/14 stroke, 1/14 type Ia endoleak (same patient)
- open repair (FET operation) 2 months, death at 4 months
- two patients with late deaths at 4m and 16m
- mean follow-up of 29 months
- expansion to other centers in process!

Terminology: Wheat operation

Terminology: Endo-Wheat operation

Terminology: Bentall operation
Terminology: Endo-Wheat operation

Endo-Bentall in PubMed

89 yo with post TAVR aortic dissection

Endo-Wheat

Endo-Bentall

- Still far away
- multiple IPs, first IDE devices within next 5 years
- need reliable TAVR and ascending TEVAR stent graft

The (near) Future of the Aortic Root Operations
1) Bentall hemiarch
2) Bentall with branched arch TEVAR
3) Endo-Bentall
4) Endo-Bentall with Branched arch TEVAR
Conclusions

- Endovascular treatment for the ascending aorta is here!
- Multiple companies and our PS-IDE with acceptable or promising early results
- Long-term follow-up is needed!
- Endo-Wheat is feasible!
- Many technical challenges to be tackled for Endo-Bentall!
- Total proximal endovascular solution is the future!