

Trans-apical Endovascular Repair of Iatrogenic Type A Aortic Dissection : Five-Year Follow-Up Results

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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

Introduction

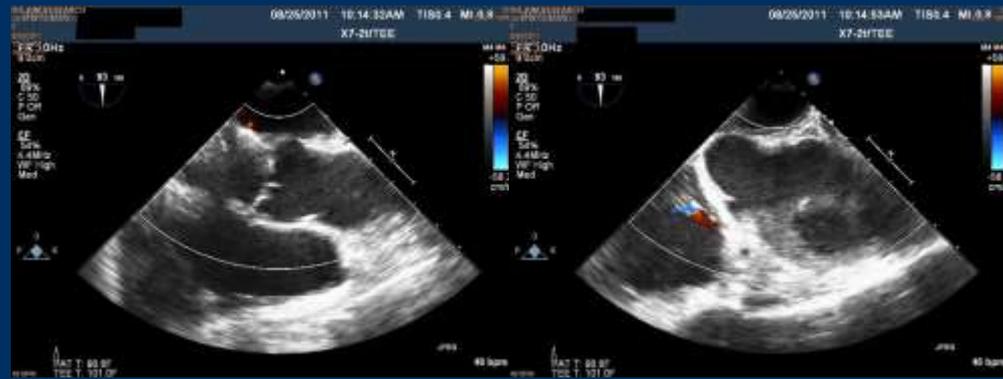
- **Intraoperative iatrogenic aortic dissection**
 - Rare but potentially catastrophic complication of OHS
 - 0.06% of cardiac surgeries resulting in 48% operative mortality
 - Femoral cannulation, cross-clamps, proximal anastomotic sites, and even IABP
- **The apex of the left ventricle for TAVR**
 - Gained popularity for introduction TAVR for overcoming limitations of conventional femoral approach and supraaortic approach either a carotid or axillary artery.
- **The apical approach for TEVAR : ?? (not well known)**

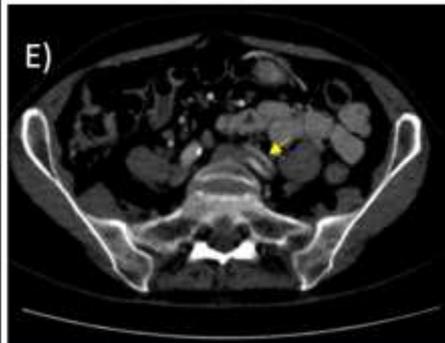
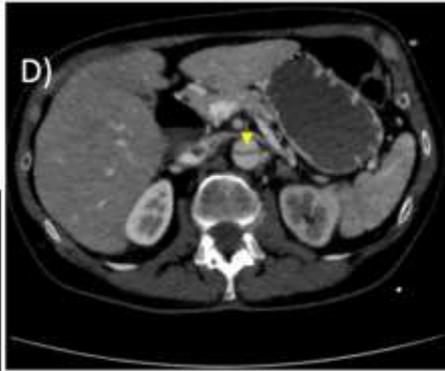
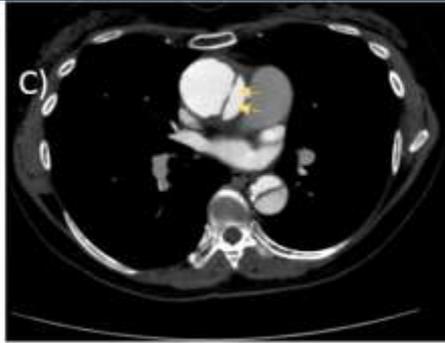
Case

- 66-year-old female
- Hypertension
- **Admission (March 30, 2011):** shortness of breath, dizziness secondary to severe MR with P2 prolapse.
 - Stable for the preceding 3 years
 - Surgical valve repair was planned due to new Sx.
- **Minimally invasive MVR with antegrade cardioplegia (April 01, 2011)**

Minimal invasive MVR (April 01, 2011)

- **TEE (before closing the skin)**
 - Good performance of the repaired MV without regurgitation
 - Small, localized aortic dissection in the ascending aorta without aortic insufficiency.
- Stable hemodynamics and localized flap
→ **to treat conservatively.**
- **3 days later, CT of the thoracic aorta**





After MVR

- **Possibility of the disease going on!!**
 - pt refuse any further surgical treatment then.
 - remained stable with medical management and was discharged after 2 weeks.
- During the postoperative period, she complained of some fatigue on ambulation and left leg claudication. **Because of extension of dissection with symptoms and refusal of additional surgery, it was decided to proceed with transapical thoracic endovascular repair (TaTEVAR).**
- **TaTEVAR (August 25, 2011)**

LINC

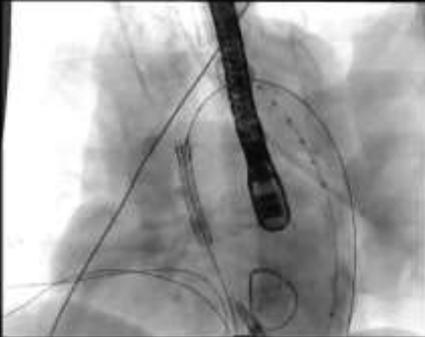
TaTEVAR



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TaTEVAR

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DR. KIM ENDOGRAFT
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12:22 PM
Run 33 - Frame 1 / 76



LAD 32.5°
Cranial 0.7°

L 511
W 931

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70.1kV, - mAs, 9mA, - ms DR. KIM ENDOGRAFT
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LAD 32.5°
Cranial 0.7°

L 563
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LAD 32.5°
Cranial 0.7°

L 590
W 913

70kV, 25mAs
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LINC

TaTEVAR



LINC

TaTEVAR

DR. KIM RESEARCH
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RAD-38°
Case 007
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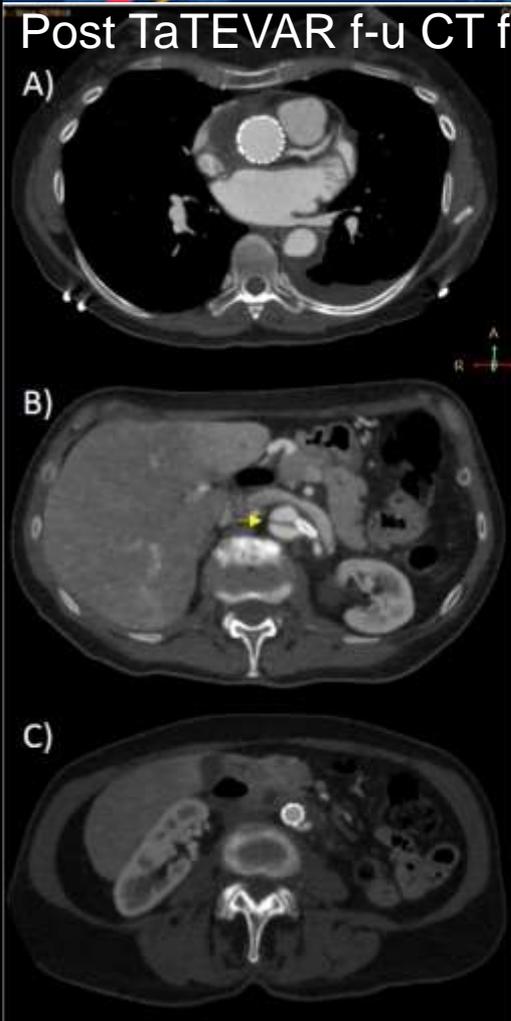
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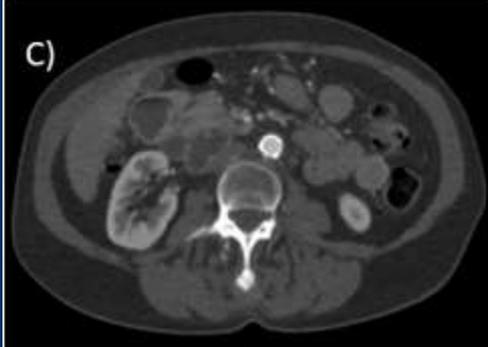
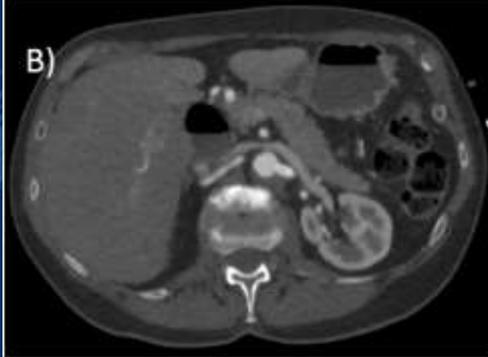
RAD-38°
Case 007
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W 041

Post TaTEVAR f-u CT findings:



L I N C

Last f-u CT
(Nov 05, 2015)



Follow up

- One year later, CT showed no evidence of residual dissection and status post placement of stent graft devices in the AA with obliteration of the previously opacified false lumen without endoleak (Fig 4). Involvement of the LCIA was no longer seen, the LRA stent was patent, and the IMA remained occluded status post coil embolization.
- The last follow-up CT, four years postoperatively, also showed full resolution of the dissection without complication.
- She had good performance without related symptoms at her most recent outpatient visit in February 2018.

Discussion

- **Cause of aortic dissection in this case ?**
 - Manipulation and cross-clamping of the ascending aorta with antegrade cardioplegia
- **If conventional surgical treatment of this complication**
 - Possibility of superimposed dissection
 - Difficulty obtaining alternative access for cardiopulmonary bypass
 - Difficulties with cerebral and myocardial protection related to either dissection-induced malperfusion or the unplanned need for alteration in cannulation site necessitated by the dissection

Discussion

- **In this case**
 - stable hemodynamic status during the operation
 - a localized flap on the intraoperative TEE
 - conservative management
 - ample time for discussion with the cardiothoracic team and pt's family
 - extensive strategic planning of the procedure
- **TaTEVAR**
 - more direct anatomically favorable approach to the ascending aorta with small caliber of ilio-femoral arteries (5 to 6 mm), the tortuosity of the aorta and the bulky devices commercially available.



Thank you for attentions!!

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