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### Disclosures

- WL Gore
- Cook Medical
- Penumbra





### Compliance

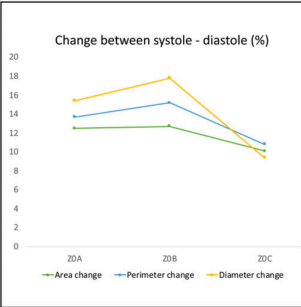
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**ORIGINAL ARTICLE**




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**Important longitudinal and circumferential pulsatile changes in zone 0 of the aorta during the cardiac cycle**

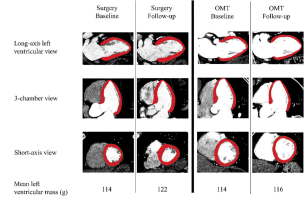
Viony M. Belvroy<sup>1,2,3\*</sup>, M. Mujeeb Zubair<sup>1,2</sup>, Jost A. van Herwaarden<sup>1,2</sup>, Sami Trimarchi<sup>1,2</sup>, Frans L. Mool<sup>1,2</sup> and Jean Bismuth<sup>1,2</sup>



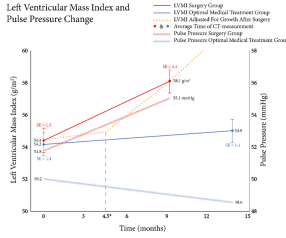
Parameter	Z0A	Z0B	Z0C
Area change	~12.5	~13.5	~10.5
Perimeter change	~14.5	~16.5	~11.5
Diameter change	~16.5	~18.5	~12.5








### Ascending Repair-Left Ventricular Mass Increase






View	Surgery Baseline	Surgery Follow-up	OMT Baseline	OMT Follow-up
Long-axis left ventricular view	114	122	114	116
3-chamber view	114	122	114	116
Short-axis view	114	122	114	116
Mean left ventricular mass (g)	114	122	114	116



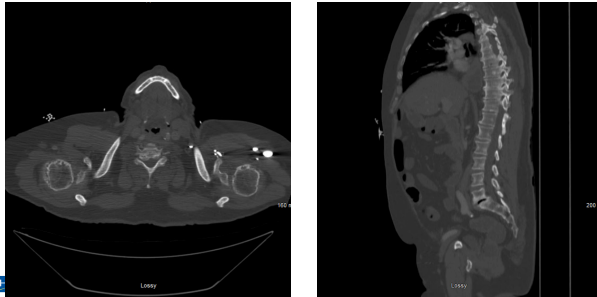







### Case 1: Patient details

- 76 yo M
- HPI: reported multiple days of nausea, vomiting, and bloating
- PMH: type a aortic dissection, hypertension, CVA, multiple prior SBO
- PSH: mechanical aortic valve + root replacement (Bentall), open cholecystectomy, hernia repairs
- Echocardiogram EF 50-55%, no cardiomyopathy

### Baseline CT Scan



## Post-op course

- Taken to ICU intubated and sedated
- Immediately post-op hypotensive requiring multiple vasoactive agents
- Repeat echo POD 1 with new onset cardiomyopathy and EF of 20%
- LHC and RHC done POD 1 —> No gradient, coronaries ok



## Post-op course

- Lengthy post-op ICU course
- Cardiac function recovered repeat echo prior to discharge with EF 55-60%
- Cognitive decline
- Discharged to LTAC

## Case 2: Patient details

- 82 y.o. female with hypertension, 50+ pack year smoker, coronary artery disease with previous coronary artery bypass and aortic root/ascending aortic replacement with 23 mm Edwards magna valve and 26 mm Hemashield graft
- Presented with 8 days of acute onset substernal and epigastric pain radiating to the back in the setting of type B aortic dissection.
- Thoracoabdominal aneurysm measuring 6+cm, with ascending and arch dilation



## Patient post-operative course

- Staged operations
  - Total arch debranching
  - Zone 0 TBE/TEVAR to within 5cm of celiac
  - 4-vessel PMEG
- Preoperative echocardiogram
  - The cavity size is normal. Wall thickness is normal. Systolic function was normal. The estimated EF was in the range of 55% to 60%. Wall motion was normal; there were no regional wall motion abnormalities. Diastolic function was normal.
- Postoperative echocardiogram
  - Left ventricular EF is 25 to 30%. The left ventricular internal cavity size was mildly increased. No left ventricular hypertrophy. Global LV systolic function was severely decreased. The Left atrium is severely dilated

## Conclusion

- We need to have a more critical view of cardiac consequences of ascending and arch stenting
- Investigate opportunity for more compliant devices?
- Are we overtreating patients in the endovascular era and will this leave us with a cohort of cardiac cripples?



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