Open repair of enlarging chronic type B aortic dissection in a pregnant woman

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April 25th 2024. Aortic Symposium. AATS- The American Association for Thoracic Surgery 104th Annual Meeting.

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INTRODUCTION

- Higher incidence of ***aortic dissection (AD) in pregnant women*** has been widely reported.

- Unknown what are the guidelines and best medical management for pregnant women with type B aortic dissections and aneurysmal dilatation of the descending thoracic aorta (DTA).

Afifi RO, Sandhu HK, Leake SS, Boutrous ML, Kumar V 3rd, Azizzadeh A, et al.
Outcomes of Patients With Acute Type B (DeBakey III) Aortic Dissection: A 13-Year, Single-Center Experience.
Circulation. 2015 Aug 25;132(8):748-54.

OBJECTIVE

To report a challenging case of a woman who underwent ***cesarean section*** at 28- weeks of gestation, and subsequently had a successful ***open repair*** of a post- dissection descending thoracic aortic aneurysm

METHODS

- A 26-year-old woman with a significant history of hypertension, systemic erythematous lupus (SLE), pneumonia, and ***Type B aortic dissection (AD)*** diagnosed in 2019, presented to the emergency room (ER) with new onset of chest, back pain and hypertension.
    - The patient was G1P0 27-weeks pregnant

METHODS

- ***On admission***, BP of 165/82 mm Hg.
  - Laboratory results showed a hemoglobin of 11 g/dL, creatinine of 1.2 mg/dL.
- ***Computed tomography*** angiography- CTA revealed a type B aortic dissection starting just distal to the origin of the left subclavian artery (LSA), extending to the superior mesenteric artery (SMA) origin.

METHODS

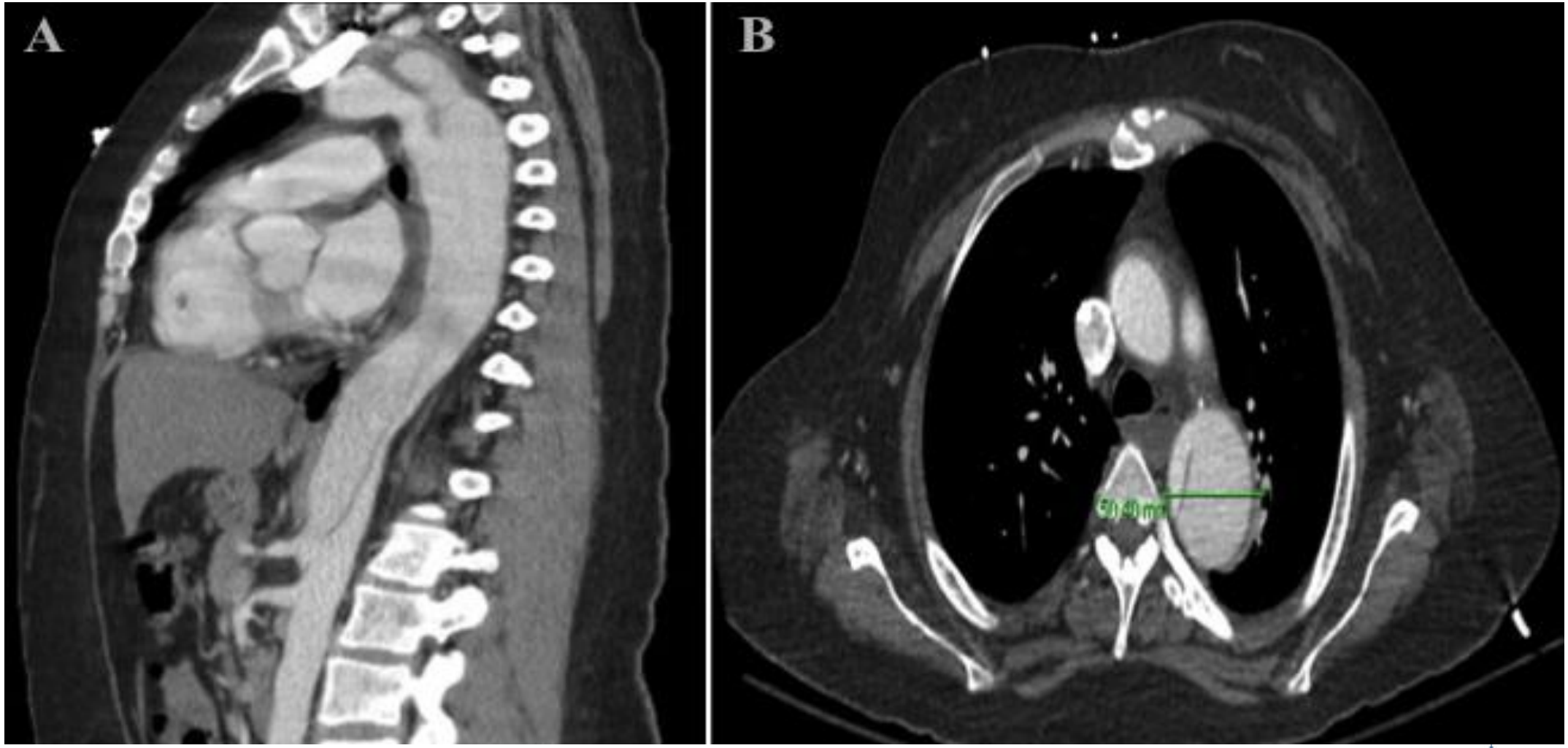

Figure 1. CTA. Type B aortic dissection (Zones 3- 7).

METHODS

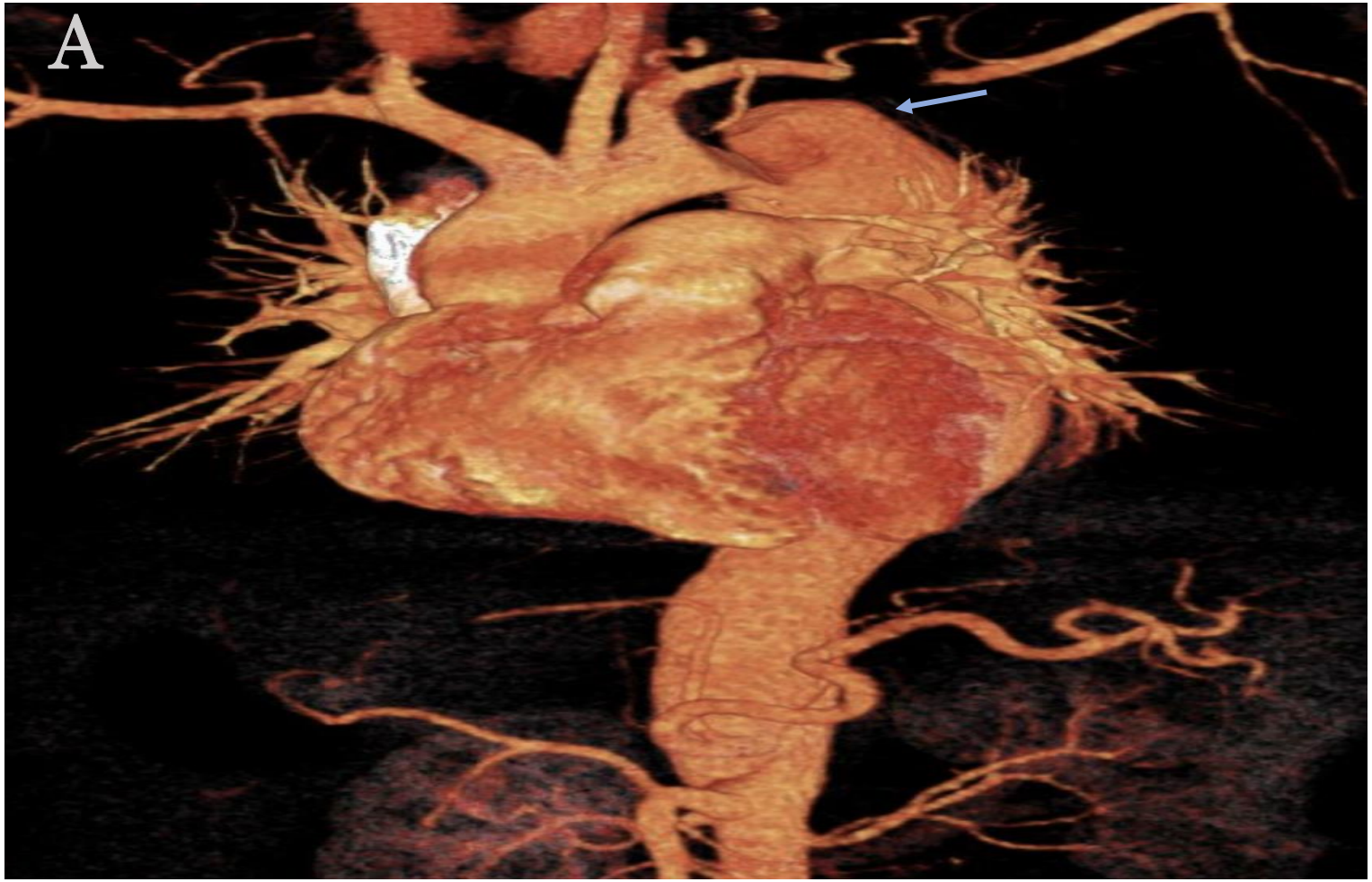

Figure 1. CTA. 3- D Reconstruction. Type B aortic dissection (Zones 3-7).

RESULTS

- The patient was ***admitted to CV- ICU.***
- Due to non-reactive fetal tracings, she underwent ***C- section*** at 28-weeks-gestation.
- Following a multidisciplinary team (***MDT***) meeting, we recommended an elective open repair of the aneurysm.

RESULTS

- ***Four months*** after C- section: underwent surgery.
- ***CSF*** drainage.
- The procedure was done under left heart bypass (***LHB***).
- Resection and graft replacement of the DTA aneurysm, using a 30- mm woven dacron tube graft via a left modified thoracoabdominal incision was performed.
- ***Cryoablation*** of intercostal nerves (T3- T8).

RESULTS

- The patient was ***discharged home 7 days*** after the procedur.
- A ***CTA*** scan performed in June 2022 revealed a patent thoracic graft without stenosis or aneurysm dilatations.
- Biomarker and genetic testing profile for aortopathy was performed and revealed a normal genetic panel.

DISCUSSION

- ***Aortic dissection in young women*** is highly associated with pregnancy, with up to 50% of aortic ruptures in female < 40-years happen in pregnancy.

- Acute aortic dissection in ***pregnancy*** is associated with high mortality and very high fetal demise.

- Some ***indications*** for aortic intervention include fetal distress, expanding dissection, aortic rupture, and evidence of end-organ malperfusion.

Rommens KL, Sandhu HK, Miller CC 3rd, Cecchi AC, Prakash SK, et al. In-hospital outcomes and long-term survival of women of childbearing age with aortic dissection. J Vasc Surg. 2021 Oct;74(4):1135-1142.

DISCUSSION

- Some groups have reported ***possible management*** of aortic dissection during pregnancy depending of the gestation weeks.

- For acute aortic dissection ***before 28 gestation weeks***, it has been suggested that surgical repair and strict close fetal monitoring may be preferred. Maternal survival should be the priority at this time.

- For those acute aortic dissections taking place ***after 28*** gestations weeks, urgent cesarean section followed by aortic dissection repair may offer the best medical chance for fetal and maternal survival.

Zhu JM, Ma WG, Peterss S, Wang LF, Qiao ZY, et al.
Aortic Dissection in Pregnancy: Management Strategy and Outcomes.
Ann Thorac Surg. 2017 Apr;103(4):1199-1206.

CONCLUSIONS

Our case highlights the importance of a ***multidisciplinary*** team, including obstetrics and maternal-fetal-medicine (MFM), cardiothoracic and vascular surgery, and intensive care physicians, for a successful outcome of chronic type B aortic dissection in pregnant women.