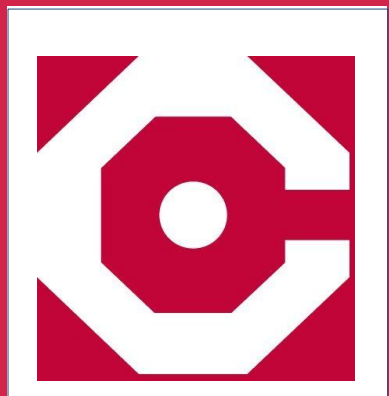


# Aortic Arch Reconstruction for the Management of a Zone 2 Aneurysm in a Patient with a Severely Angulated Cervical Aortic Arch

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## Background

- A cervical aortic arch is commonly associated with a concomitant aortic arch aneurysm
- 62-year-old patient presented with a cervical aortic arch aneurysm with a significantly angulated zone 2 segment with a very posterior left subclavian artery
- Since diagnosis, rapid growth occurred from 3.8 cm to 5.2 cm over 18 months
- Symptoms associated with aneurysm were occasional dysphagia, left-sided chest, neck, and shoulder pain, as well as significant anxiety
- Patient taken to operating room for planned multidisciplinary approach with cardiac and vascular surgery

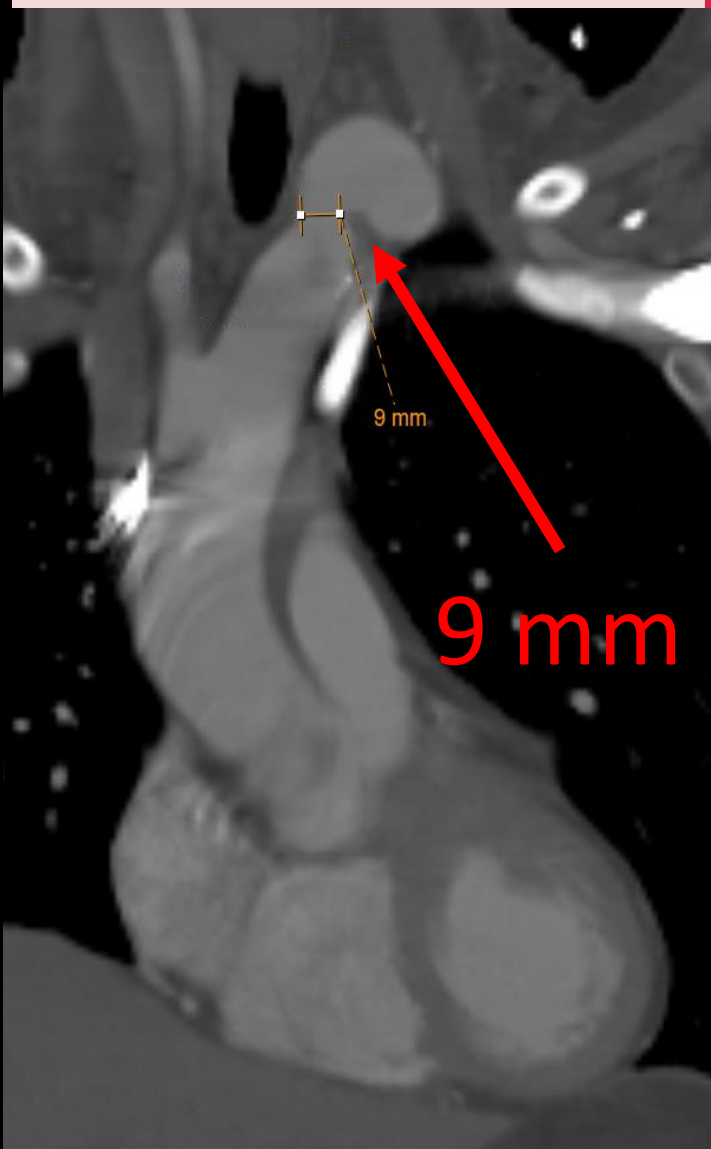
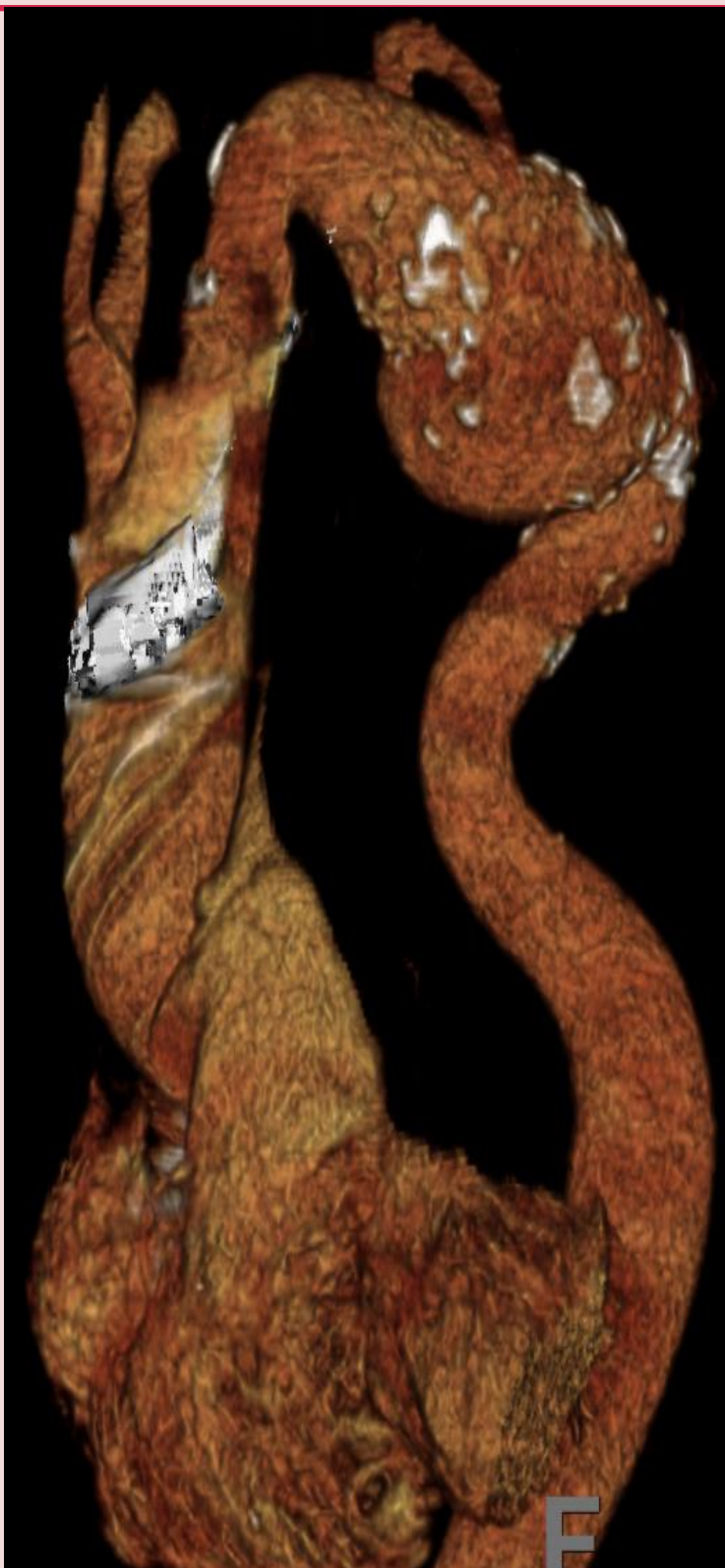
## Case

- Median sternotomy with extension to a left supraclavicular incision
- Cardiopulmonary bypass with cannulation of the left common femoral artery and vein as well as the right innominate artery and left common carotid artery
- Right groin access with 0.035 advantage wire passed into aortic arch, placement confirmed with TEE
- Left common carotid and subclavian artery were identified and dissected free for several cm with care to protect the vagus and phrenic nerves.
- Left carotid to subclavian bypass performed with 8 mm Dacron, ligation of L SCA proximal to vertebral artery
- Under circulatory arrest, zone 1-4 of the aortic arch was dissected free and zone 4 portion was transected to identify previous advantage wire
- Wire was externalized and a Terumo Thoraflex 24 mm x 100 mm graft was deployed over the wire into the distal thoracic aorta
- After cuff was sewn in and the graft was brought to zone 1 in an anatomic configuration, the branch of the Thoraflex device was ligated as it did not anatomically align
- Finally, an 8 mm Dacron interposition bypass was performed to the left common carotid artery from the graft

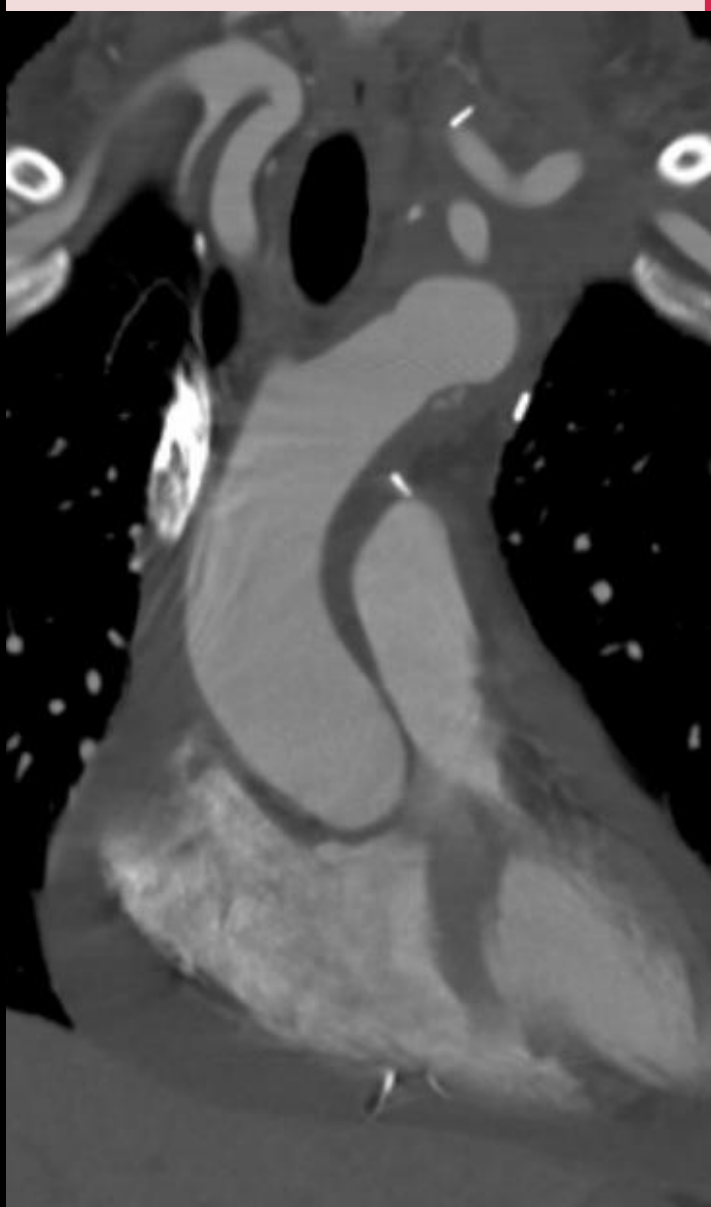
## Discussion

- This case highlights the technical aspects of an uncommon anatomic variant with angulation that precludes a strictly endovascular approach. With careful operative planning, a multidisciplinary and hybrid approach can be a durable and viable repair
- At 8-months post-op patient has none of her presenting symptoms and imaging confirms appropriate resolution of aneurysm

## Case Images



Pre-intervention



Post-intervention

## References

