

# Successful Repair of a Ruptured Sinus of Valsalva Following Blunt Chest Traumatic Injury

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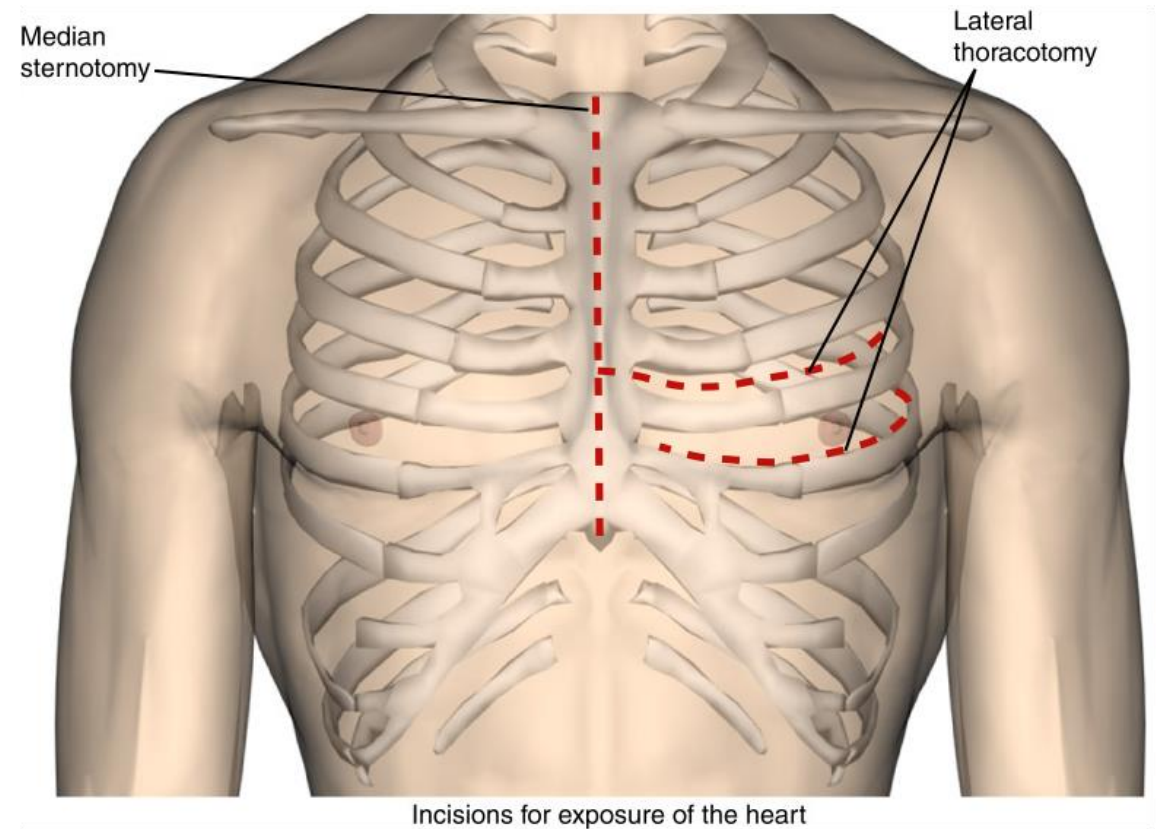
Aortic  
Symposium

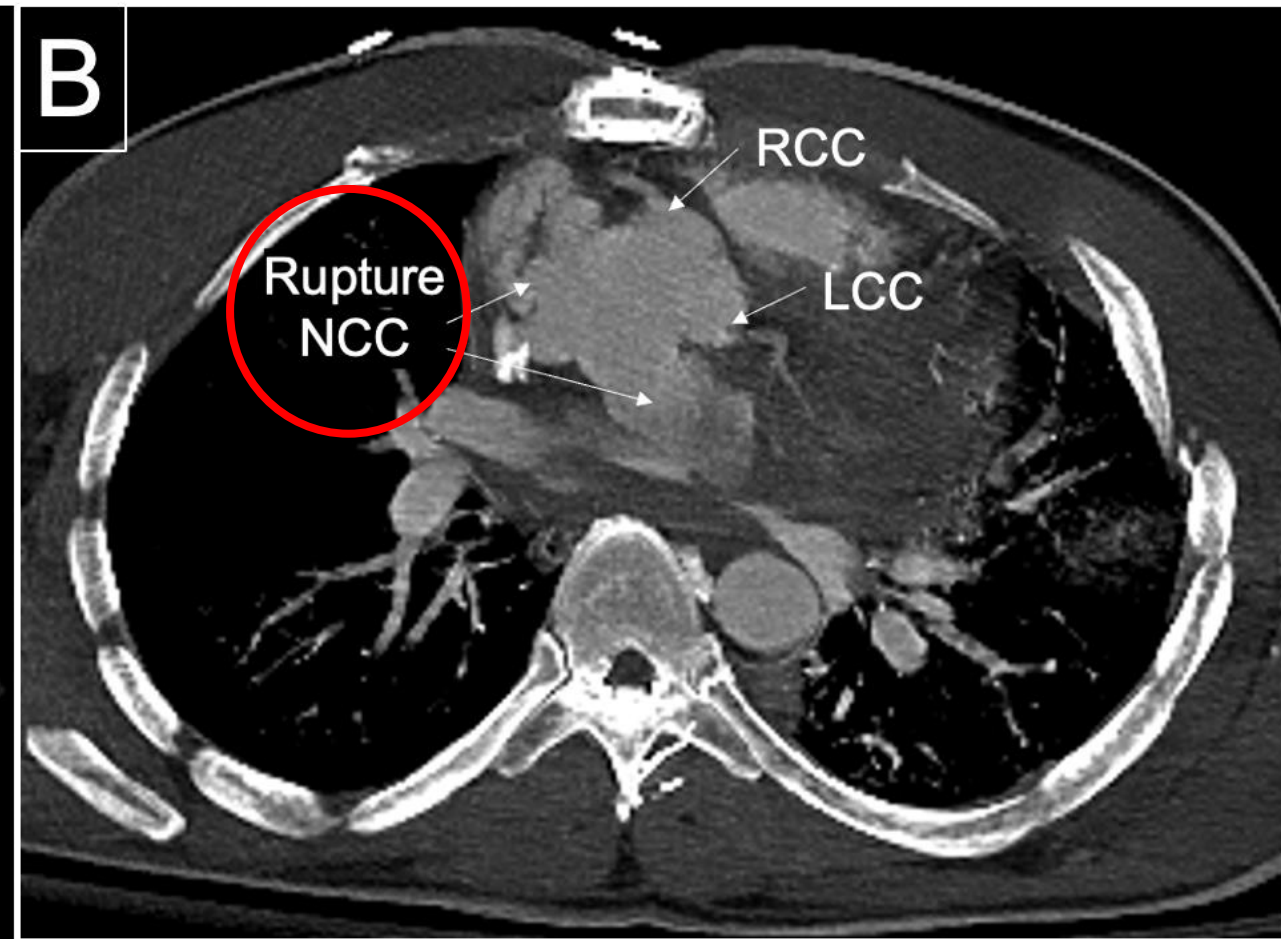
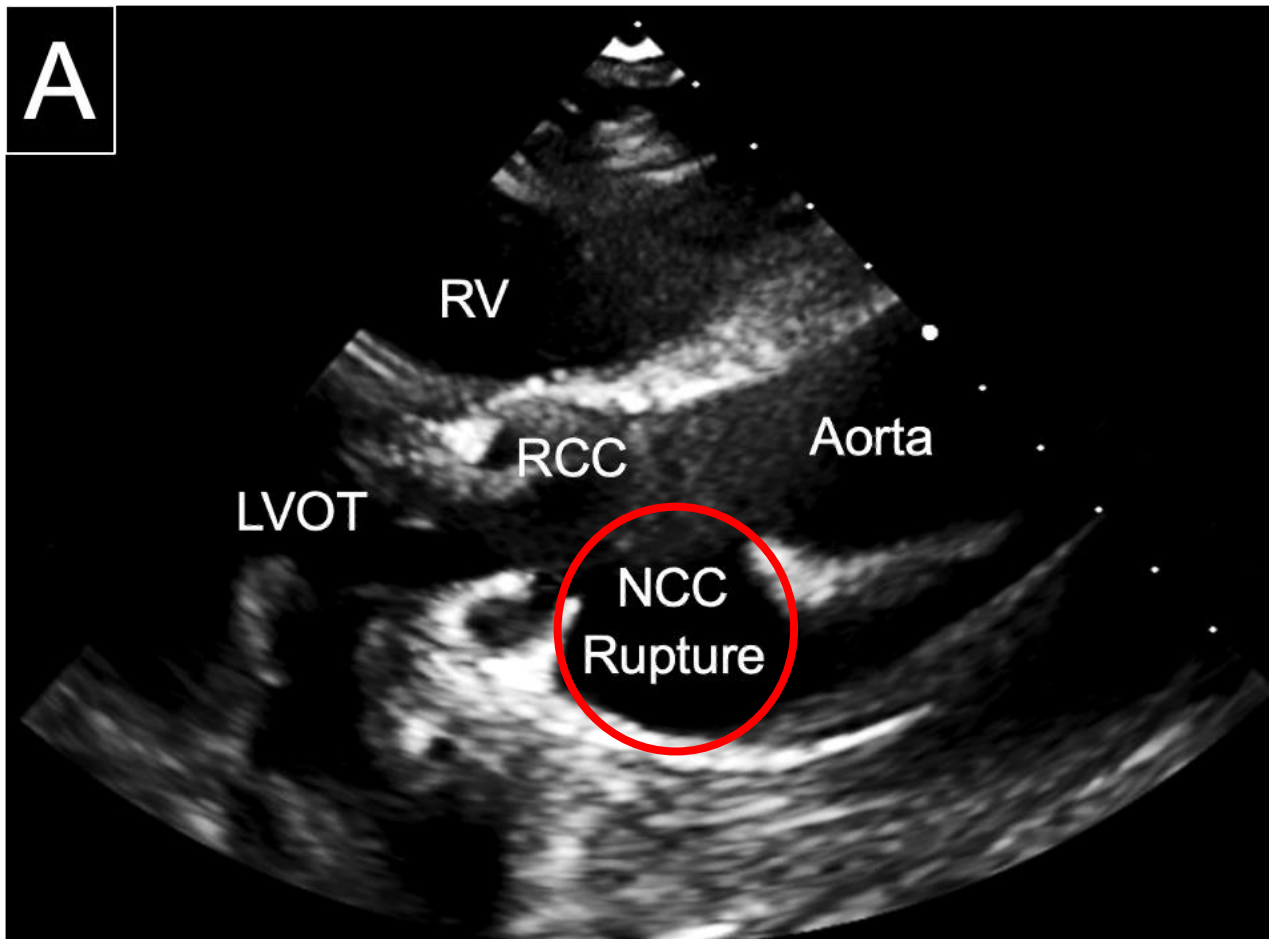
# Case Presentation

## History of presenting illness:

- 47 y/o M s/p blunt chest trauma
- PMH: Prior GSW with **L thoracotomy/sternotomy**
- Concern for thoracic aortic injury
- CC: + LOC, chest pain, and SOB

**Primary survey:** Required BiPAP support





*Figure 1A: The transthoracic echocardiograph reveals a rupture of the sinus of Valsalva. The rupture is near the aortic root's non-coronary cusp (NCC). Also visible are the right ventricle (RV), left ventricular outflow tract (LVOT), right coronary cusp (RCC), and ascending aorta.*

*Figure 1B: Axial view of chest CT showing **disruption of the non-coronary cusp (NCC) with contained posterior hematoma within the mediastinum.** The left coronary cusp (LCC) and right coronary cusp (RCC) are visualized.*

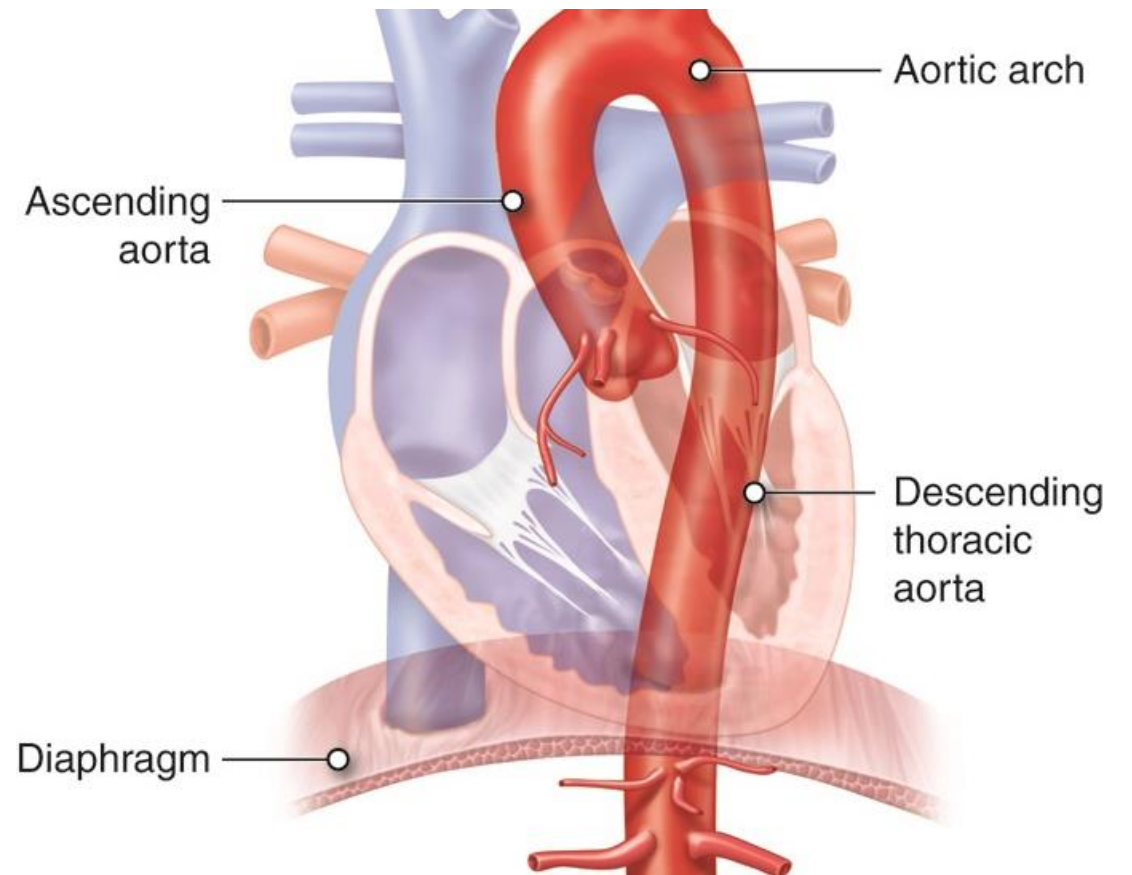
# Operative Findings

An emergent redo sternotomy was performed.

Revealed **rupture of the left and non-coronary sinus blowout injury.**

A biological aortic root and valve replacement (Biobentall) was performed.

*The patient was discharged and fully recovered on follow-up.*



# Ruptured Sinus of Valsalva

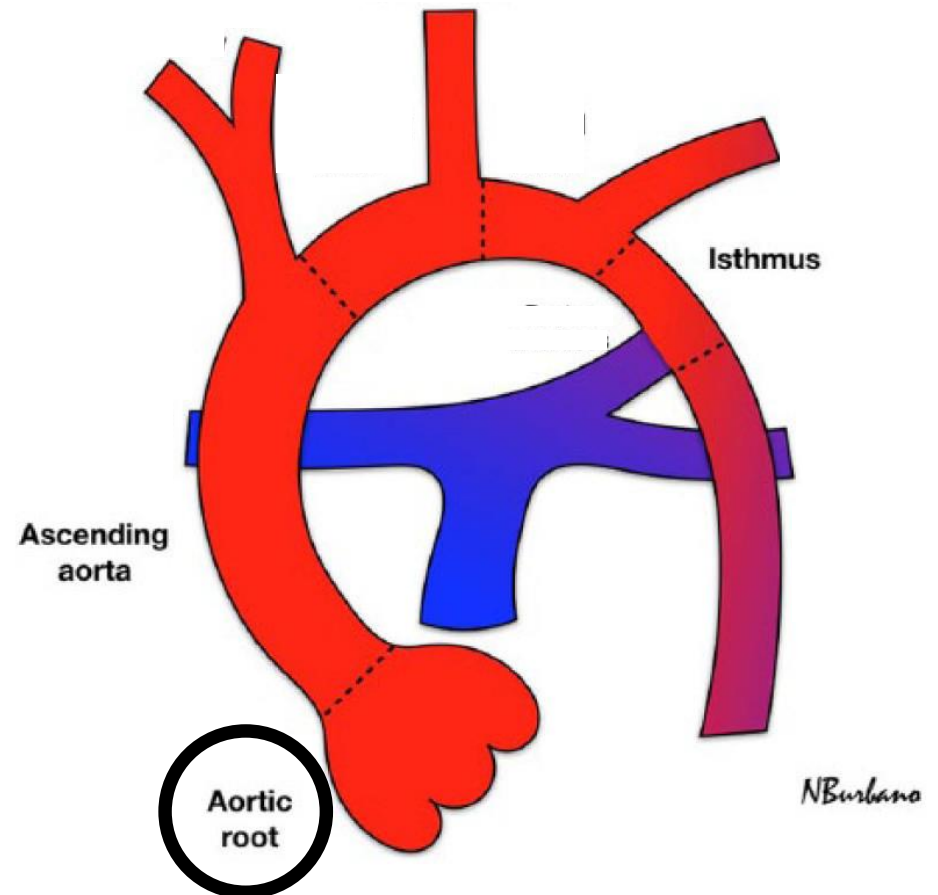
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Rare and fatal disease without urgent repair

- **History of sternotomy** possibly contributed to the patient's survival by containing the hematoma

The most common site of traumatic injury is the **aortic isthmus**

- Isthmus rupture has a higher survival rate compared to ascending aortic root rupture.



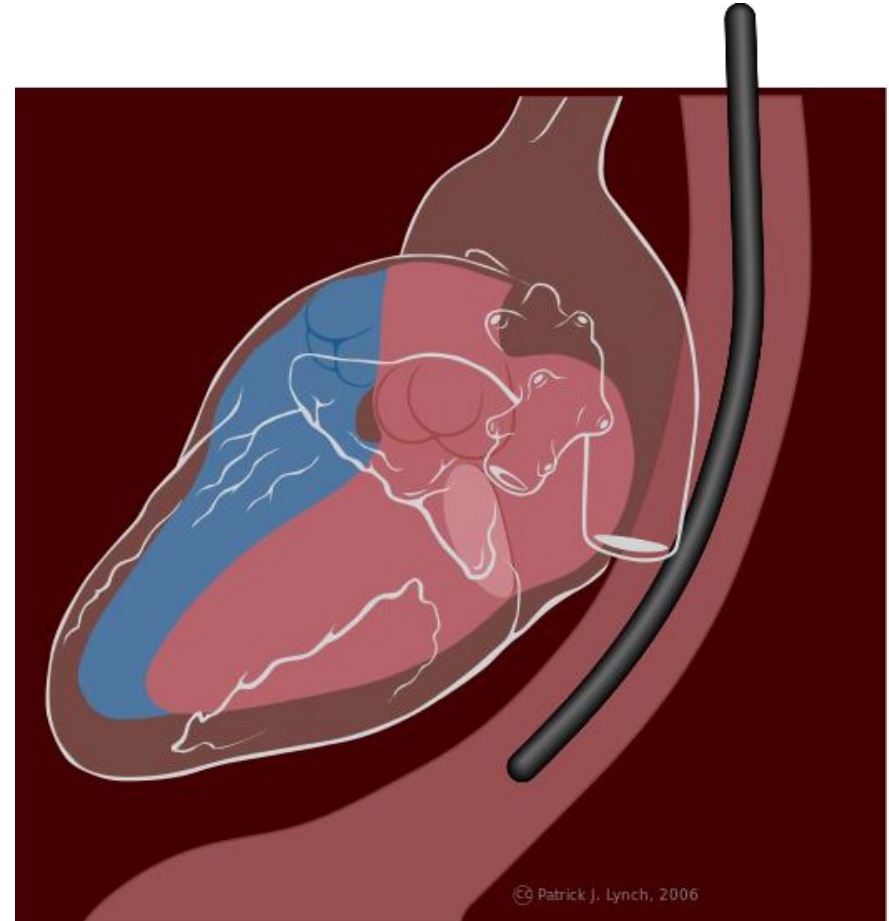
# Diagnosis and Treatment

## CTA and TEE are diagnostic

- TEE gives additional information about valve and aortic injuries

## Gold standard: **Bentall** procedure

- Ascending aorta and aortic valve replacement



# Conclusion

- The **unique** feature of this case
  - Acute **traumatic** cause of the rupture
  - Distinct **CT and TTE** findings
  - **Successful** aortic root replacement.
- Traumatic free wall ruptured sinus of Valsalva into the mediastinum can show **specific radiological** findings;
  - **Rapid surgical** correction should ensue.

