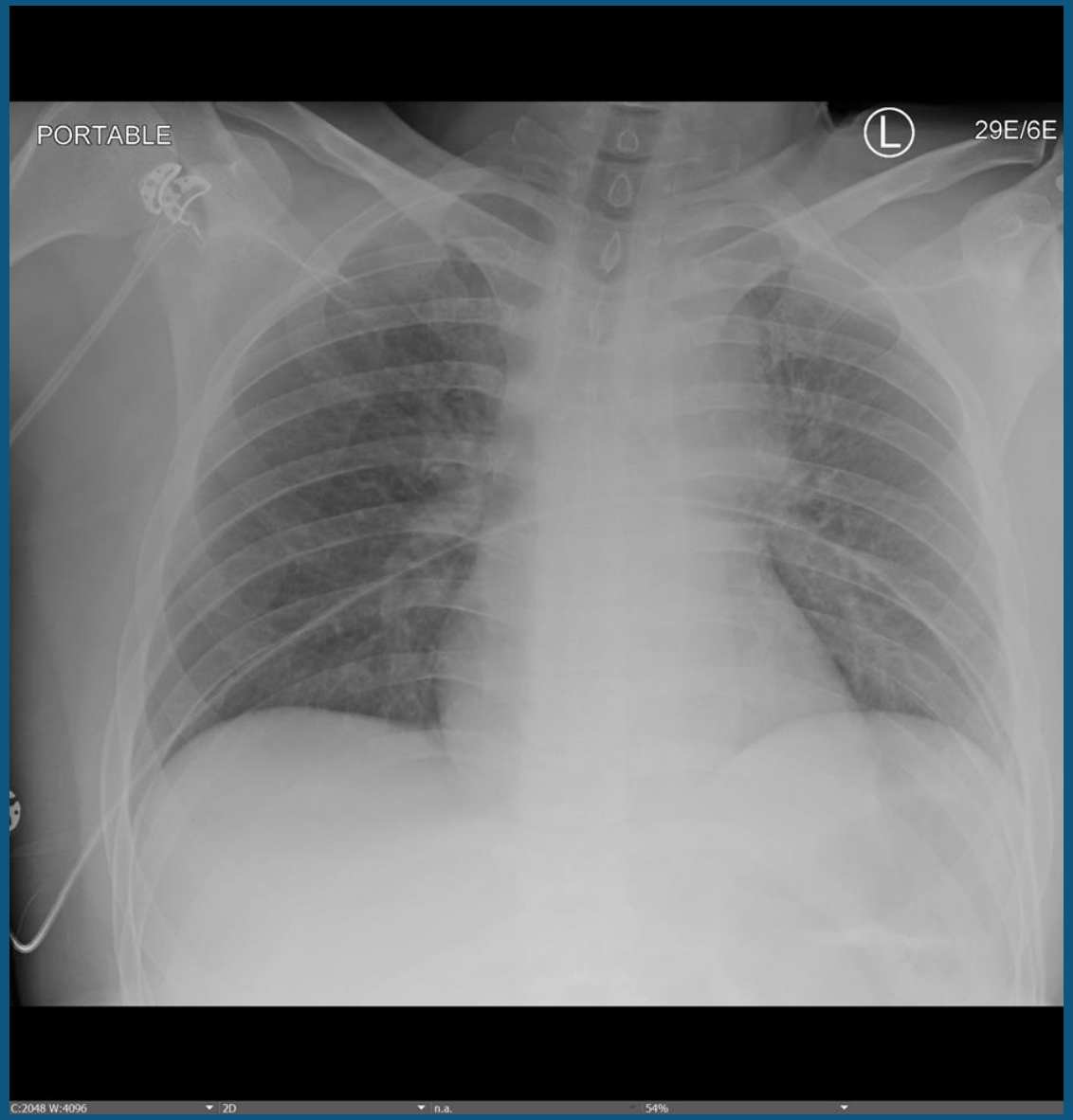
Radiology Case Report

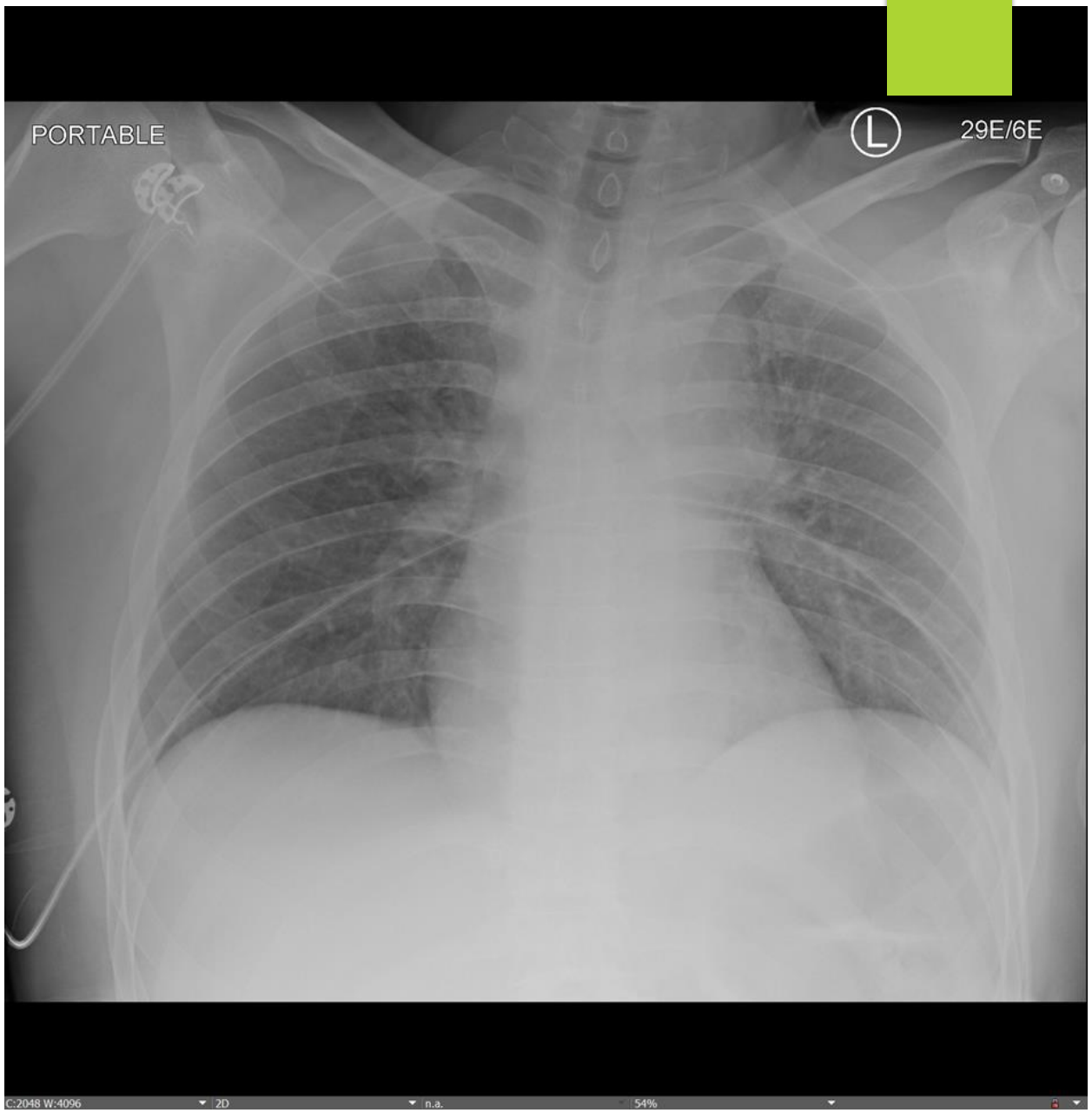
ROBERT MANOS, MS-4


PORTABLE
L
29E/6E

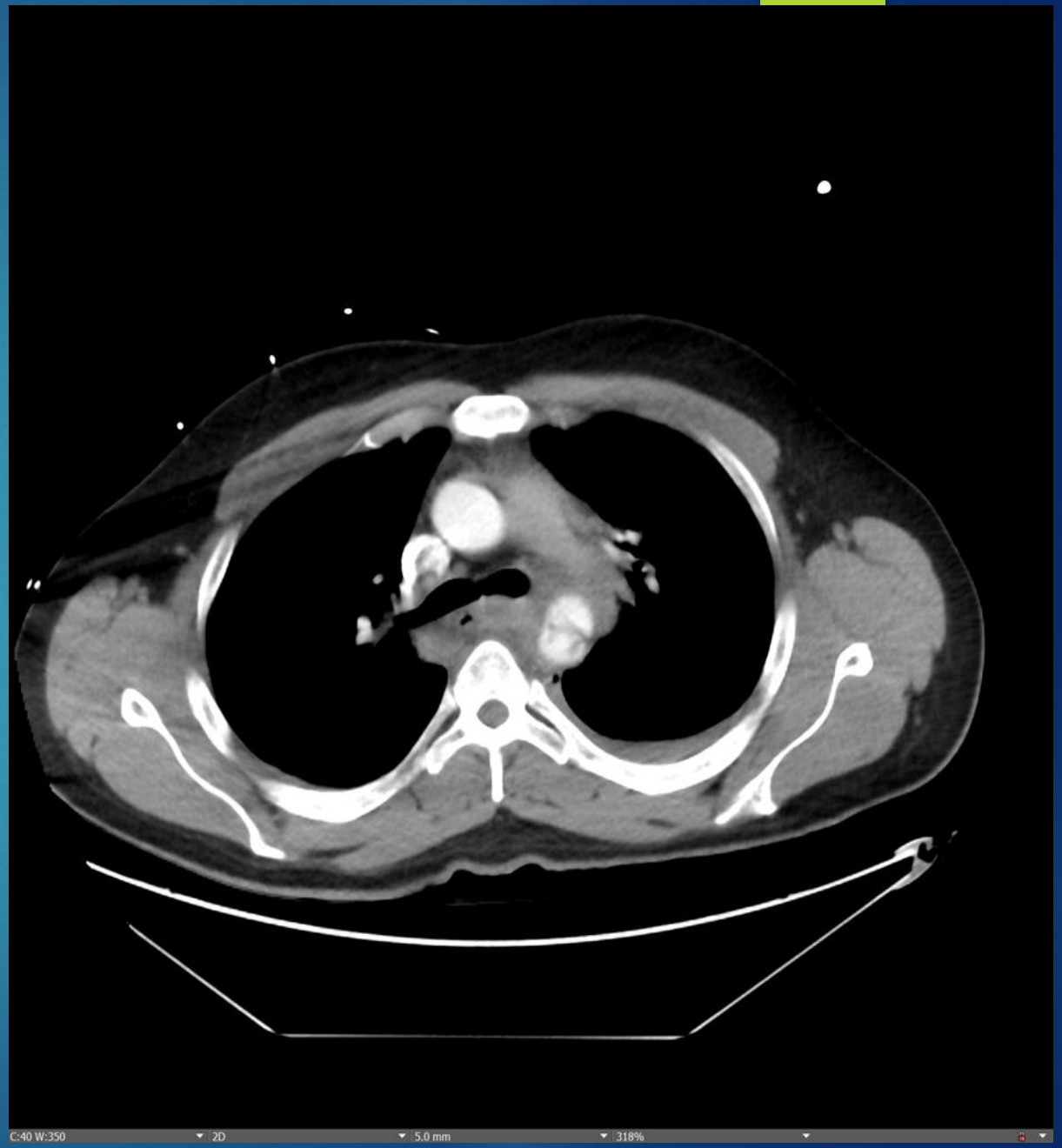

L

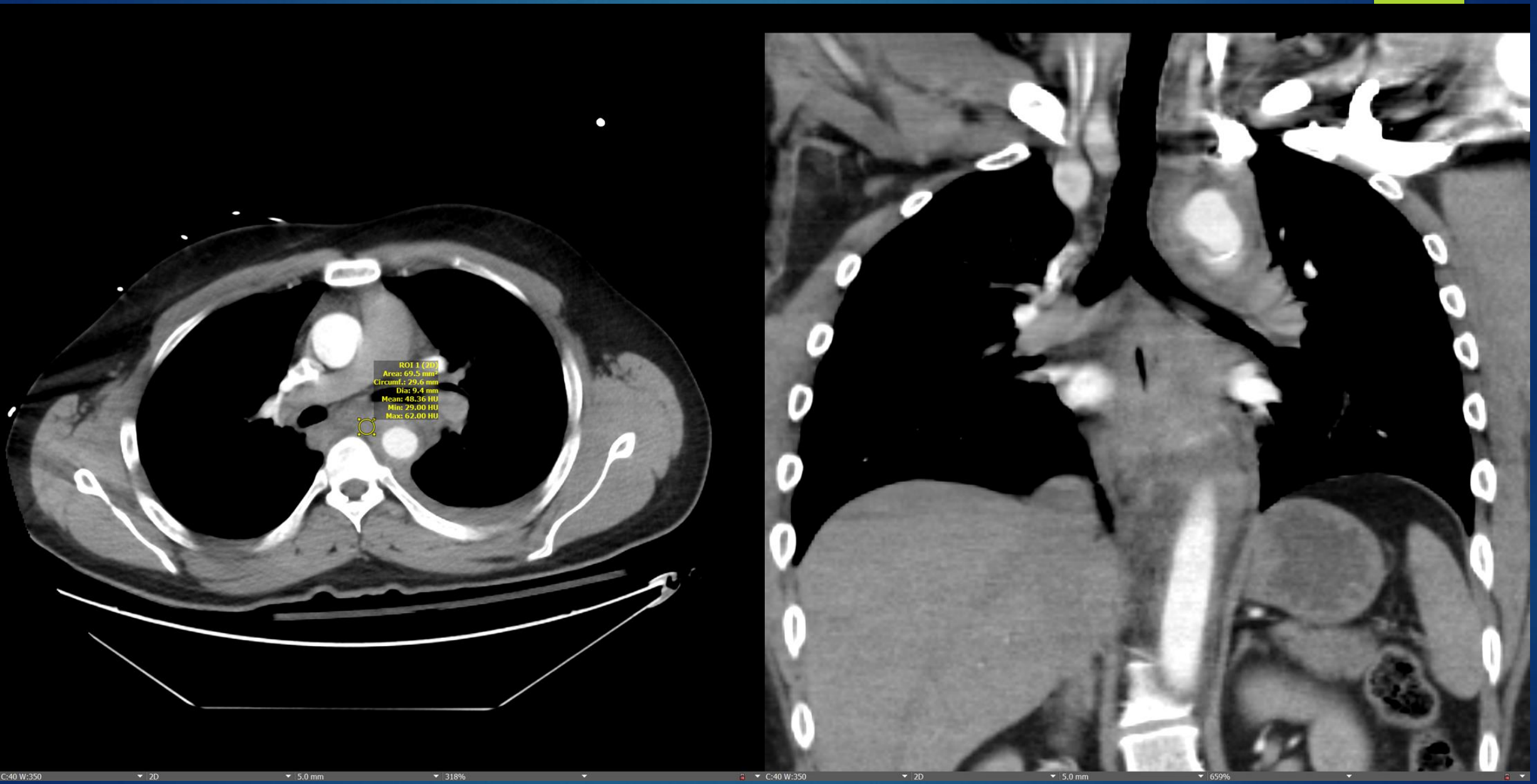
HPI

- 32 y.o. male that presented to the ED as a full trauma. Injury occurred during MVC with rollover, patient found to be intoxicated. Endorses injecting heroin earlier today. Does not remember the event.



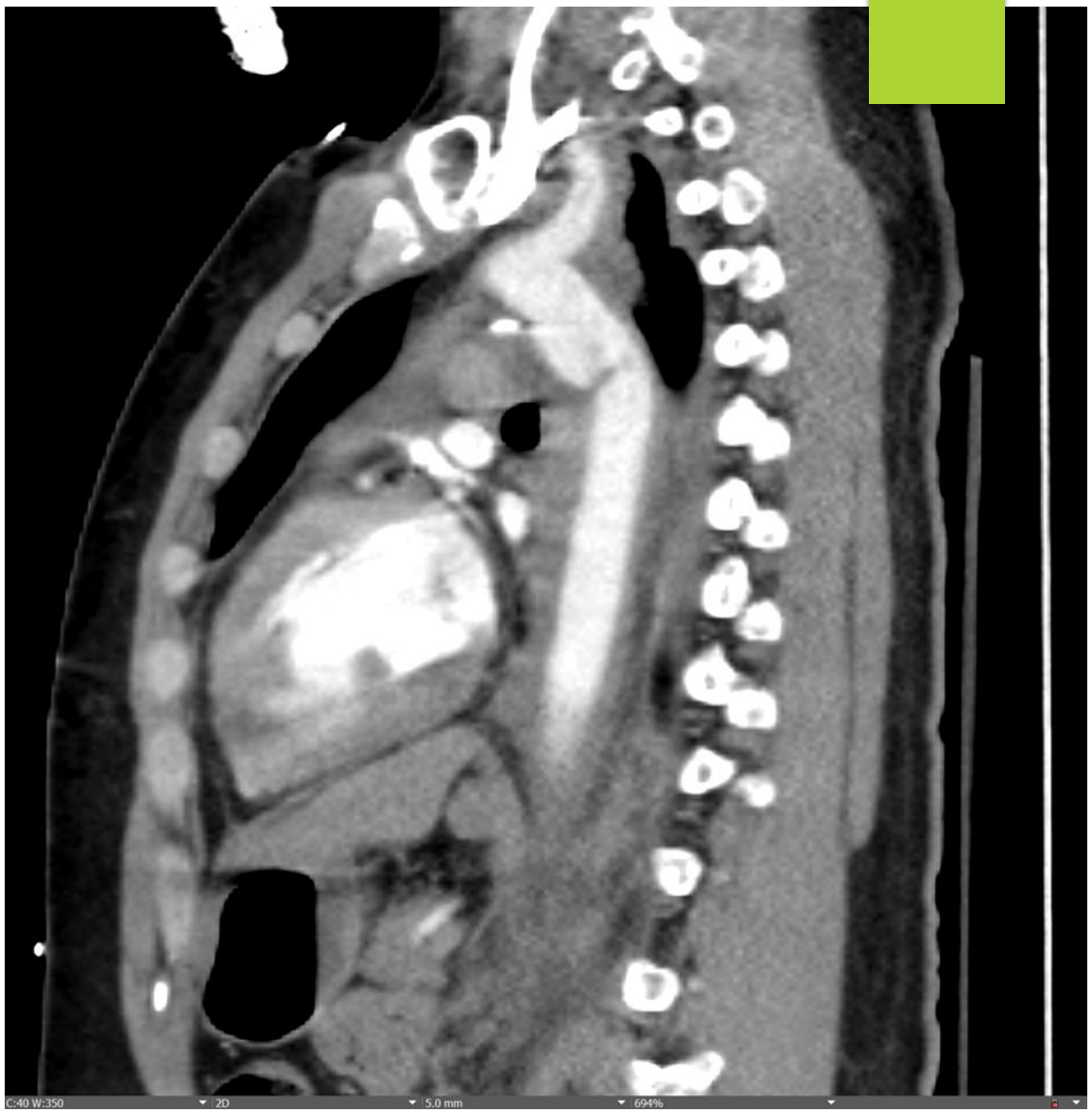

C:40 W:350
2D
5.0 mm
694%

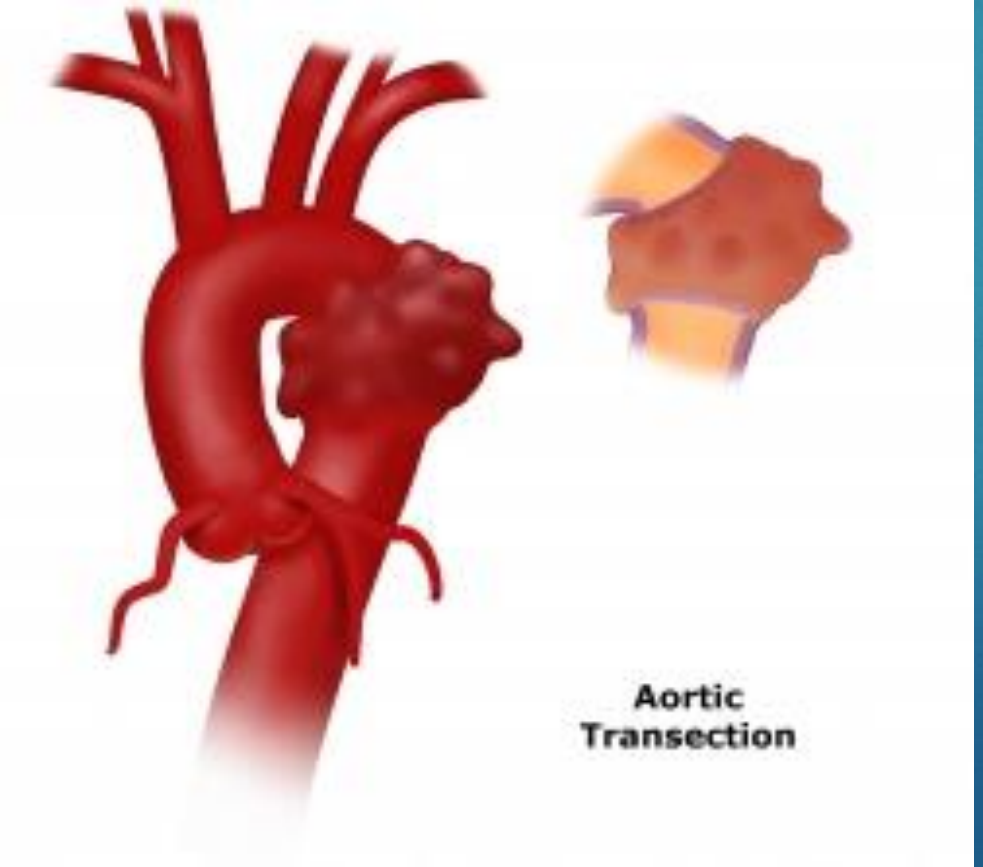

C:40 W:350
2D
5.0 mm
318%


ROI 1 (2D)
Area: 69.5 mm²
Circumf.: 29.6 mm
Dia: 9.4 mm
Mean: 48.36 HU
Min: 29.00 HU
Max: 62.00 HU
C:40 W:350
2D
5.0 mm
318%
C:40 W:350
2D
5.0 mm
659%

Aortic Transection

- An **aortic transection** (also known as a traumatic aortic rupture) is a type of traumatic aortic injury. It is considered the second most common cause of death associated with motor vehicle accidents.
- It occurs from a near-complete tear through "all the layers" of the aorta due to trauma (e.g. motor vehicle collision or a severe fall).





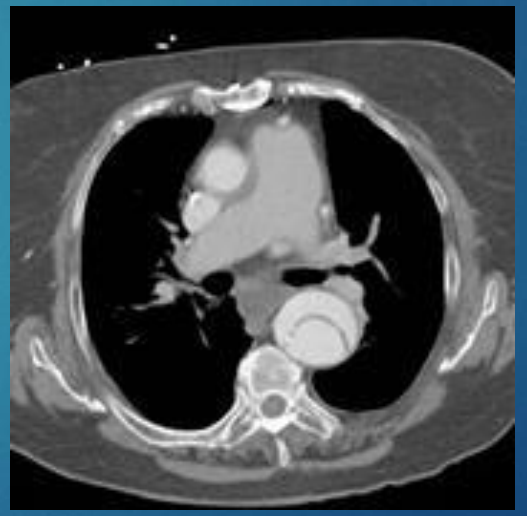
Aortic Transection

- It tends to most commonly occur in the **proximal descending aorta**, near where the left subclavian artery branches off from the aorta. Tethering of the aorta by the **ligamentum arteriosum** makes the site prone to shearing forces such as those occurring in a sudden acceleration or deceleration event

Aortic Dissection

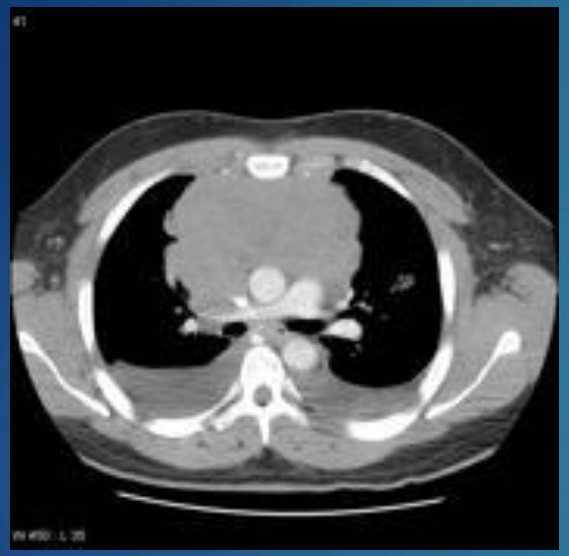
- **Aortic dissection** occurs when blood enters the medial layer of the aortic wall through a tear or penetrating ulcer in the intima and tracks along the media, forming a second blood-filled channel within the wall.

Stanford type A



Stanford type B

Differential Diagnosis – Widened Mediastinum



Mediastinal large B cell lymphoma

Thymoma

Vascular anomalies
unfolded aorta
double SVC
aberrant right subclavian artery
azygous continuation of the IVC

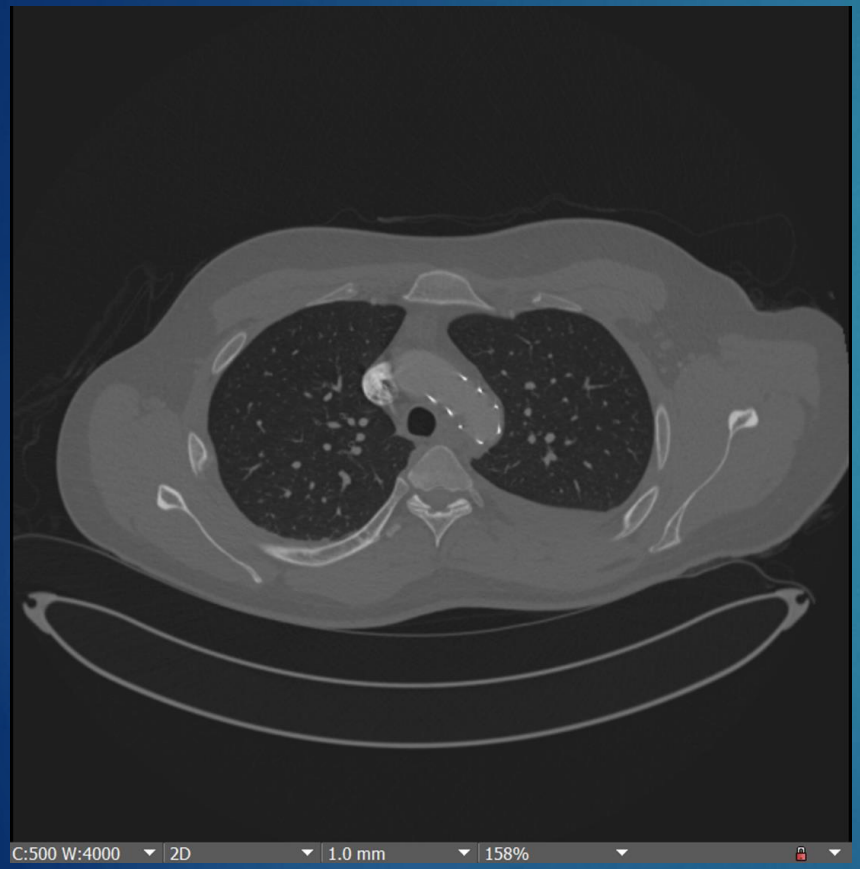
Lung atelectasis

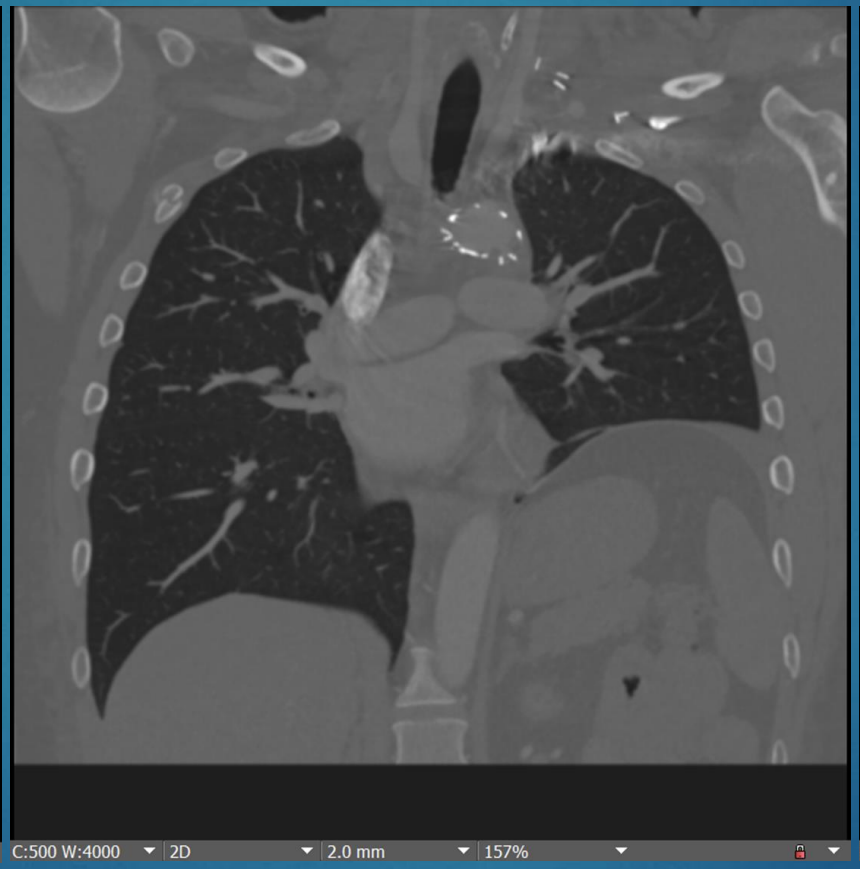
Mediastinal lymphadenopathy

Enlarged pulmonary arteries

Technical factors (on chest x-ray)
rotation
poor inspiration
supine position
lordotic position

Graft Repair of Aortic Transection





References

- https://radiopaedia.org/articles/aortic-dissection
- https://radiopaedia.org/articles/aortic-transection
- https://www.google.com/search?q=aortic+transection&source=lnms&tbm=isch&sa=X&ved=0ahUKEwiYluyV2-DdAhWJY98KHU3KCscQ_AUIDigB#imgrc=pHy56XoXME5WzM: