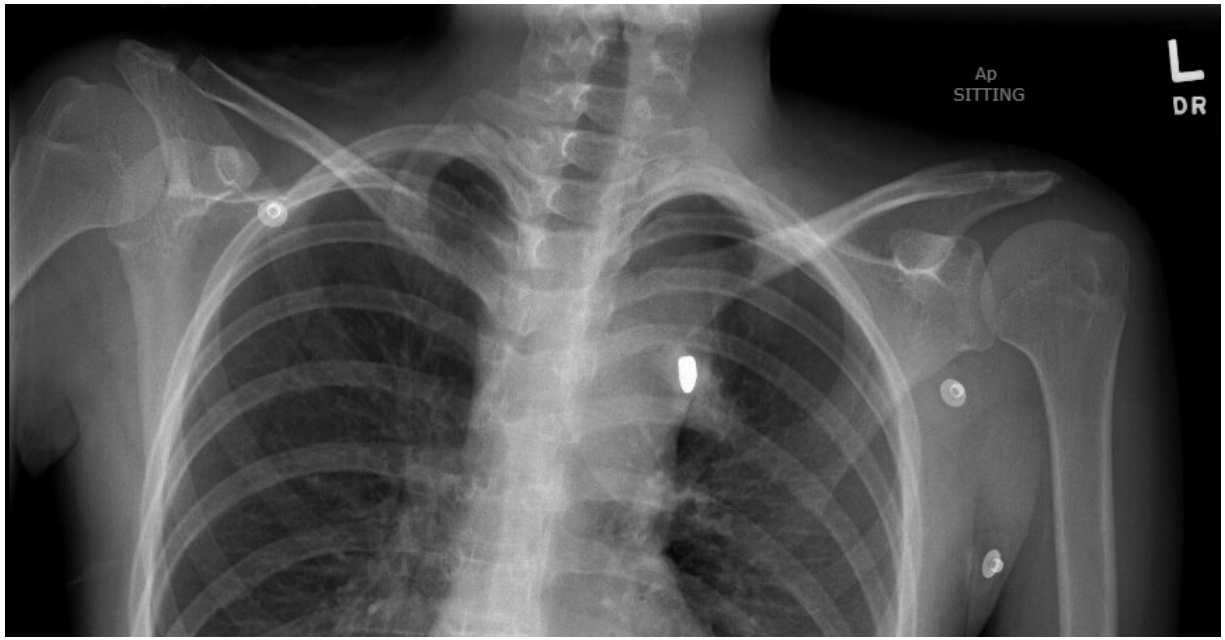
Case Presentation 1: Penetrating Neck Trauma

15 year old female

Ahmad Azizov



Presenter disclosures

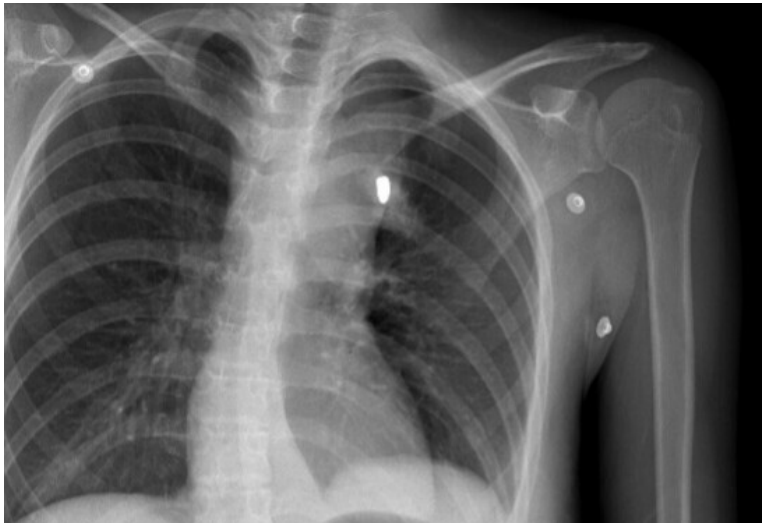
- I have no current relationships with commercial entities

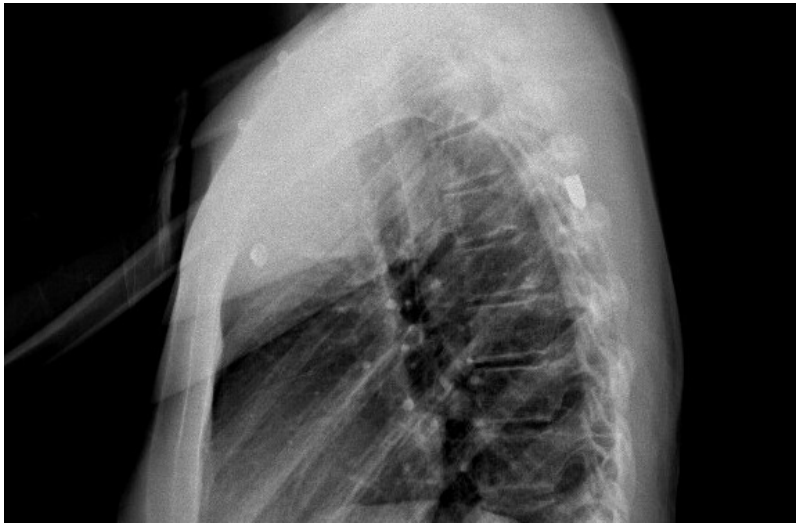
Patient Introduction

- 15 year old female from home
- PMHx: D&C in 2018
- Mechanism: accidental discharge of a modified 22 caliber shotgun bullet to the neck from 4 feet during cleaning by the boyfriend

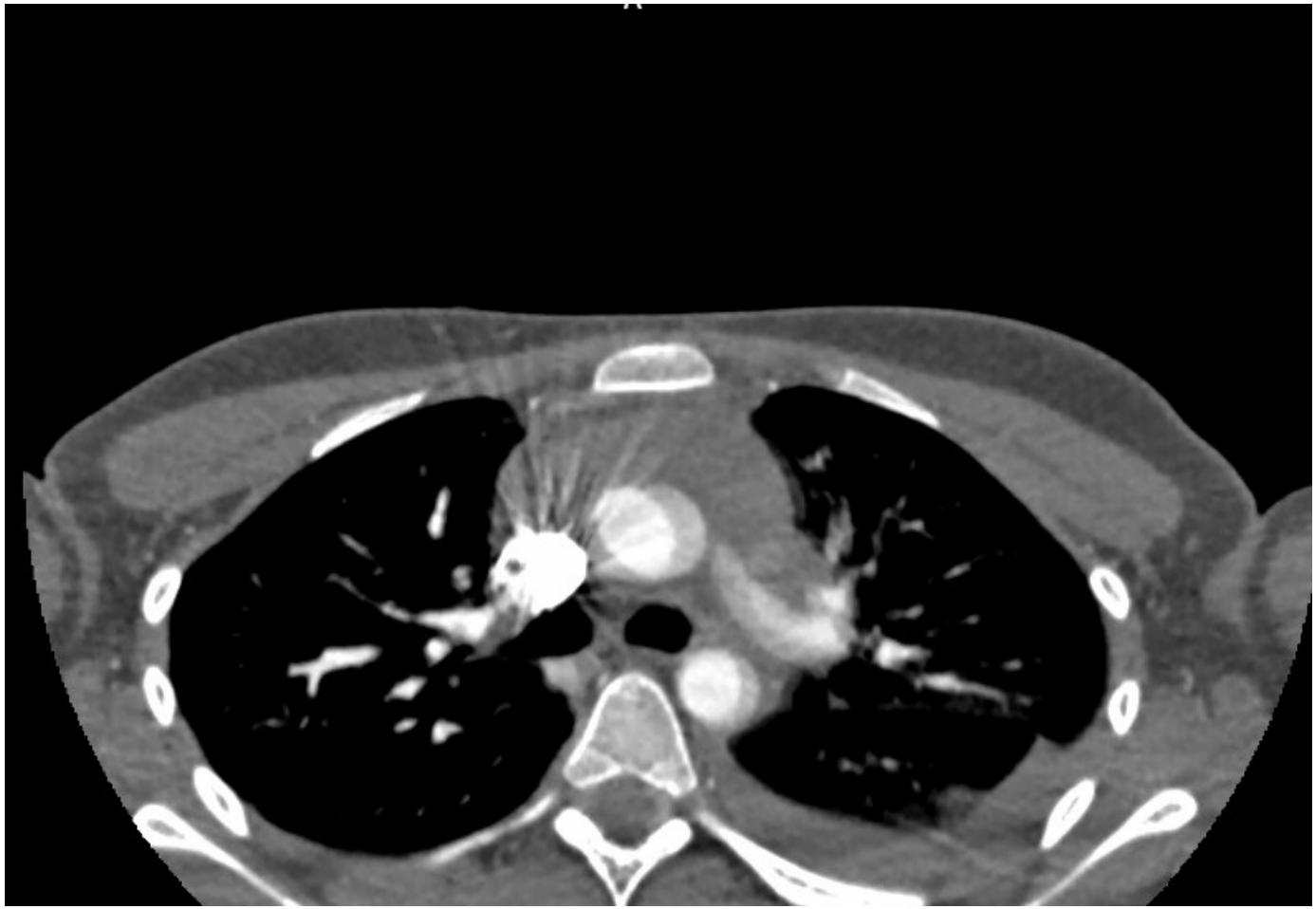
Initial Presentation

- Taken into a community emergency department > Cxr
- Hemodynamically stable, GCS 15
- Left upper sternal entry wound with a hematoma and no exit wound
- CT Thorax→ transferred to trauma center at London Health Sciences Centre (LHSC)





CT Imaging



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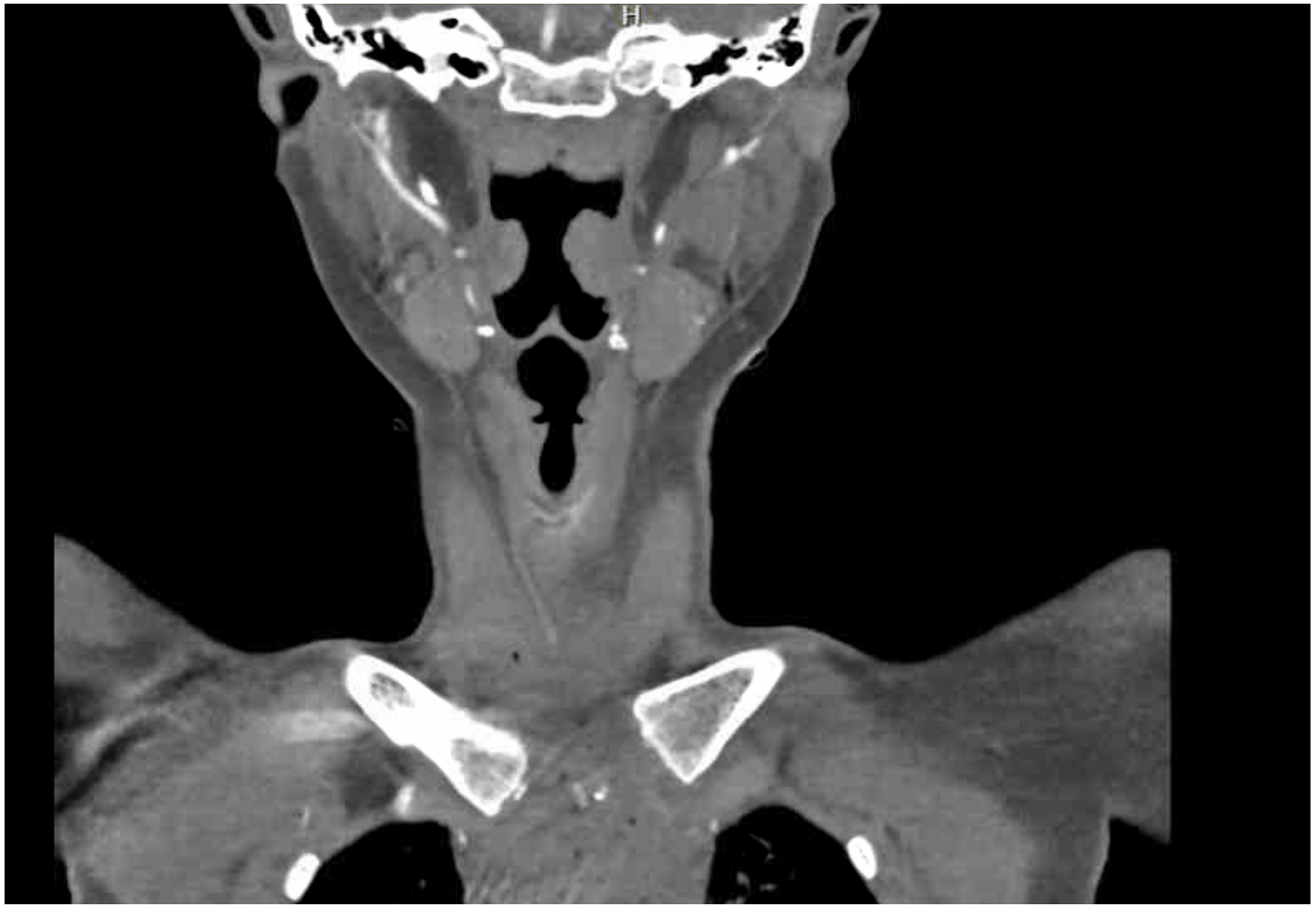

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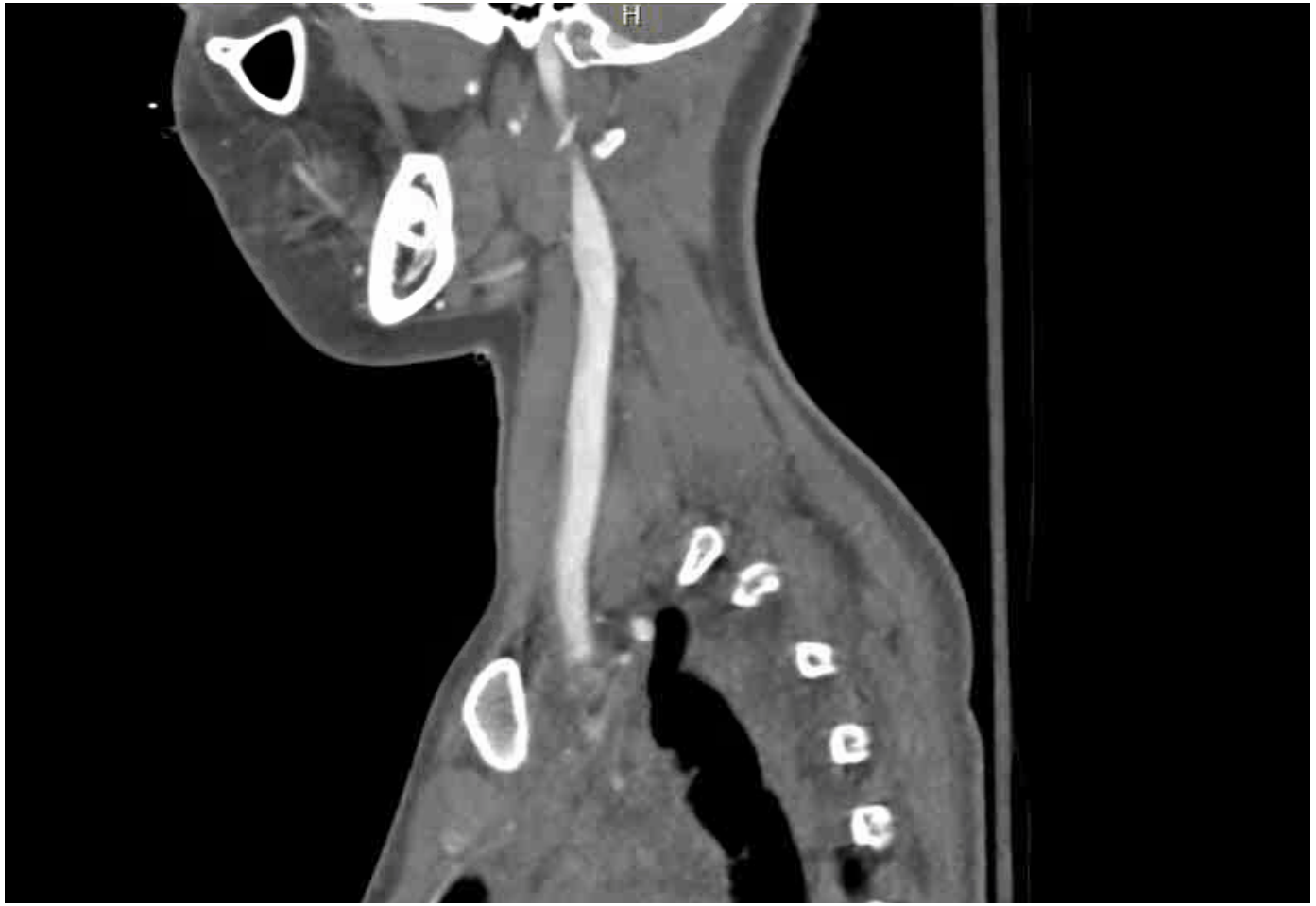
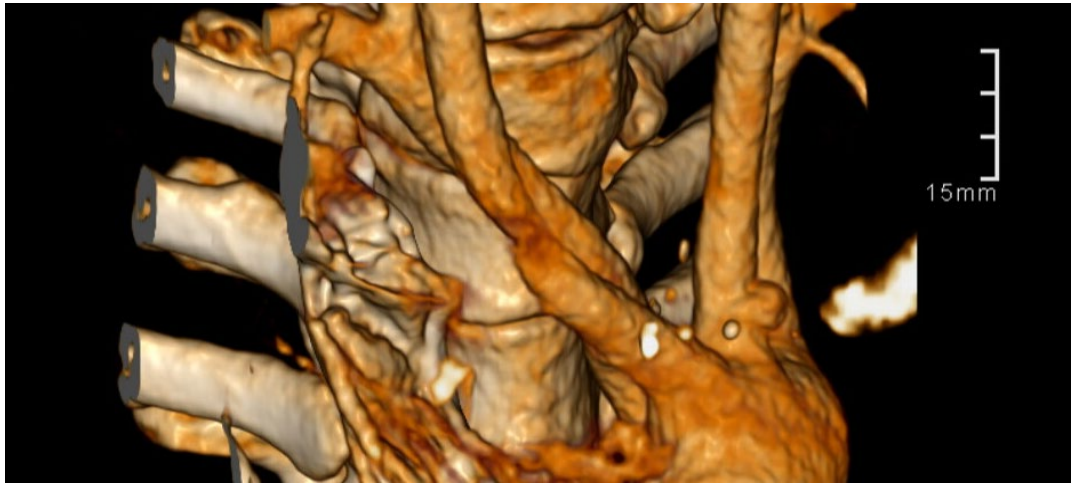


Imaging Findings

- Suspected 6 mm traumatic pseudoaneurysm involving the inferior left common carotid artery
- Single bullet in the left posterior pleural space with associated left hemopneumothorax.
- Sternal fracture, mediastinal hematoma, pneumomediastinum and localized pulmonary hemorrhage.



Thoracic Operative Procedure

- Flexible bronchoscopy showed no airway injury or bleeding; left bronchial blocker inserted
- Patient positioned right lateral decubitus; left chest prepped and draped sterilely
- Second surgical time out performed; 5 mm port inserted at 7th intercostal space (mid-axillary line)
- Thoracoscope introduced; capnothorax to 8 mmHg achieved; lung isolation adequate
- Additional 5 mm ports placed; blood and clots suctioned from anterior/posterior mediastinum
- Diaphragm and pericardium intact; bullet trajectory tracked through upper to lower left lung lobes
- Bullet identified and removed via wedge resection of left lower lobe using Endo-GIA stapler
- 24F chest tube placed; no active bleeding observed in mediastinum; hemostasis confirmed
- Intercostal nerve blocks administered; bronchial blocker removed; lung re-expanded
- Ports closed in layers; counts correct; patient extubated and transferred stable to Recovery Room

Vascular Operative Procedure

- After 24 hrs
- Neck, chest, and groins prepped with chlorhexidine and draped in sterile fashion
- Curvilinear incision from neck to just below manubrium; sternum divided with sternal saw
- Dissection allowed exposure of innominate artery, aortic arch, left common carotid, and subclavian artery
- Identified small pseudoaneurysm at the origin of the left common carotid, consistent with CT findings
- Blood pressure lowered; 5000 units IV heparin given; aortic arch and carotid arteries clamped safely
- Pseudoaneurysm opened—linear tear found in artery wall; uninvolved artery tissue appeared healthy
- Defect repaired primarily with interrupted 6-0 Prolene sutures; back bled and flushed before unclamping
- Repair was hemostatic with good distal pulse and no narrowing; heparin reversed with protamine
- Chest and neck closed in layers; patient sent to PCCU in stable condition; EBL ~200 mL.

Postoperative Course

- Extubated on POD 2
- No neuro deficits; lungs clear; Off O2
- Pain localized to incision site; managed with Tylenol & Morphine
- Incisions healing well; no concerns with chest tube site

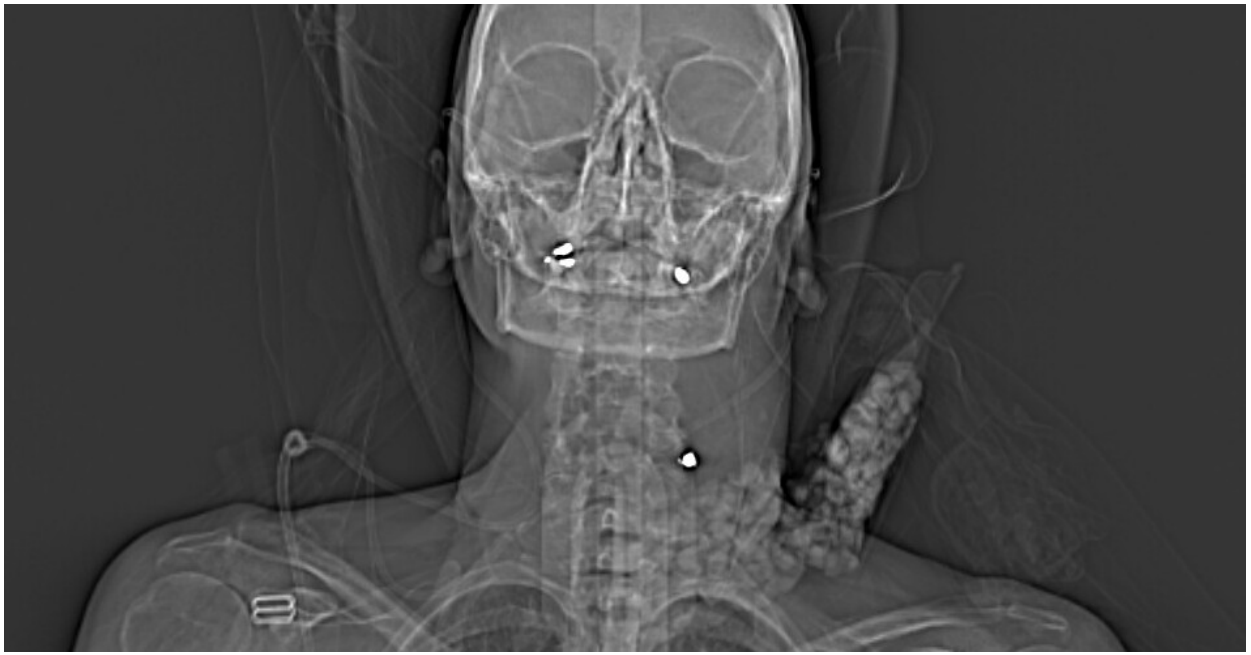
Follow-Up & Prognosis

Lost to follow up

Case Presentation 2: Penetrating Neck Trauma

63 year old female

Ahmad Azizov

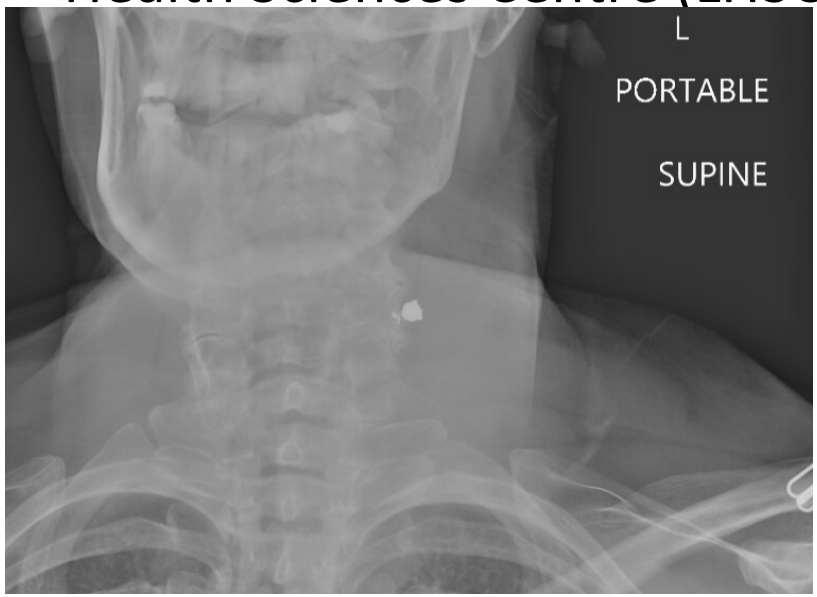


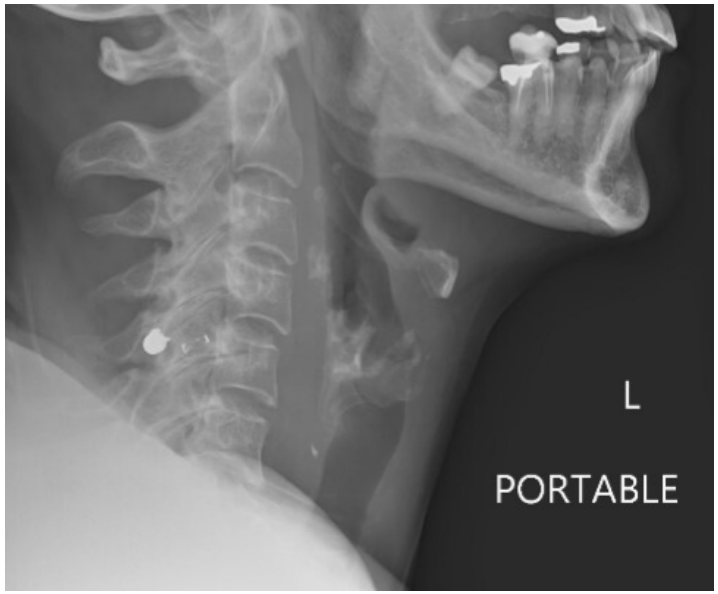
Patient Introduction

- 63-year-old female
- PMHx: None
- Lifetime non smoker
- Mechanism: accidental BB gun shot to left neck by husband who was attempting to shoot an animal

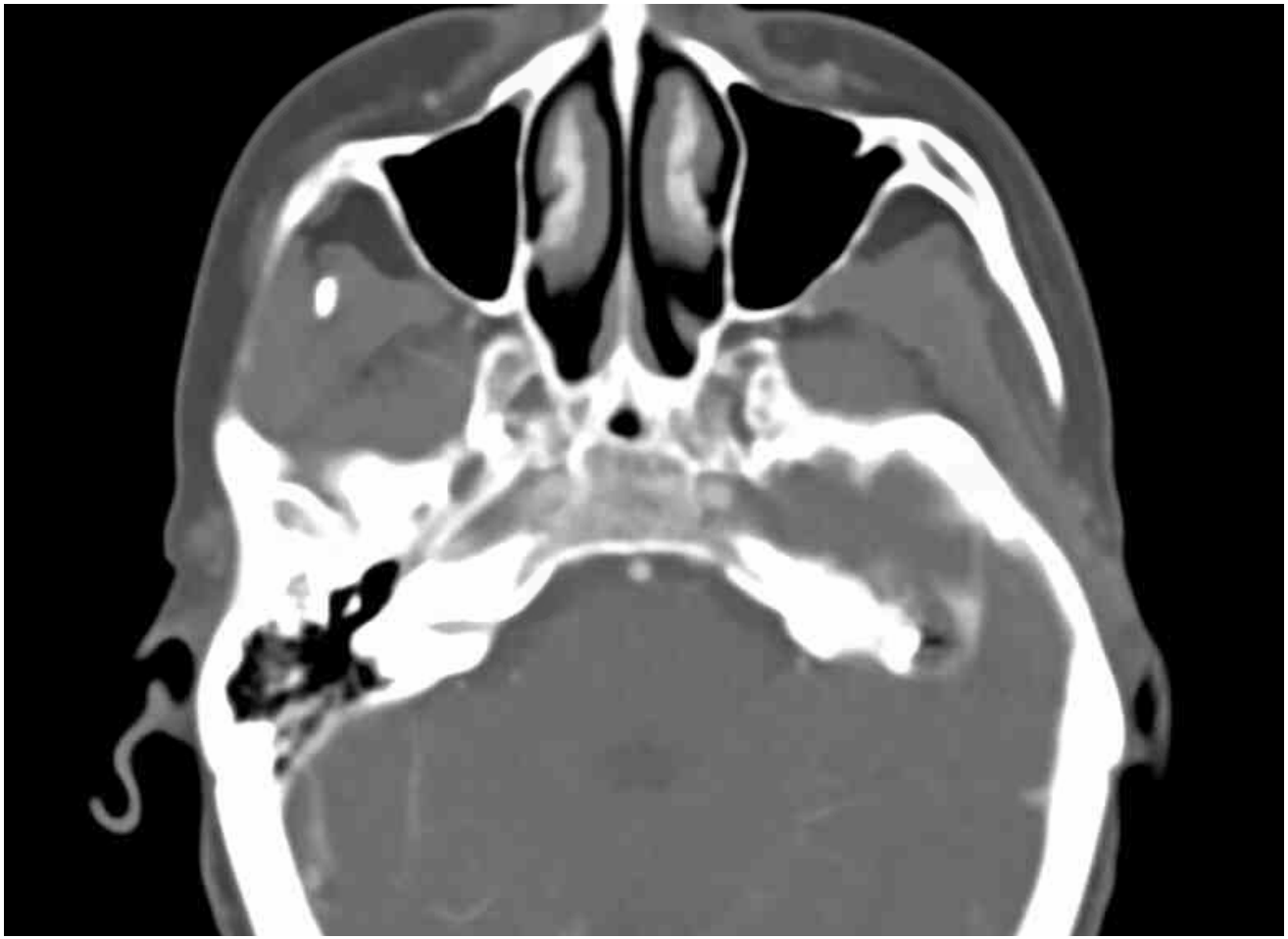
Initial Presentation

- Walked into a community emergency department
- Hemodynamically stable, neurologically intact
- Small cervical hematoma, 1 cm open wound with a stable hematoma (Zone 2)
- CT angiogram → transferred to trauma center at London Health Sciences Centre (LHSC)





CT Imaging



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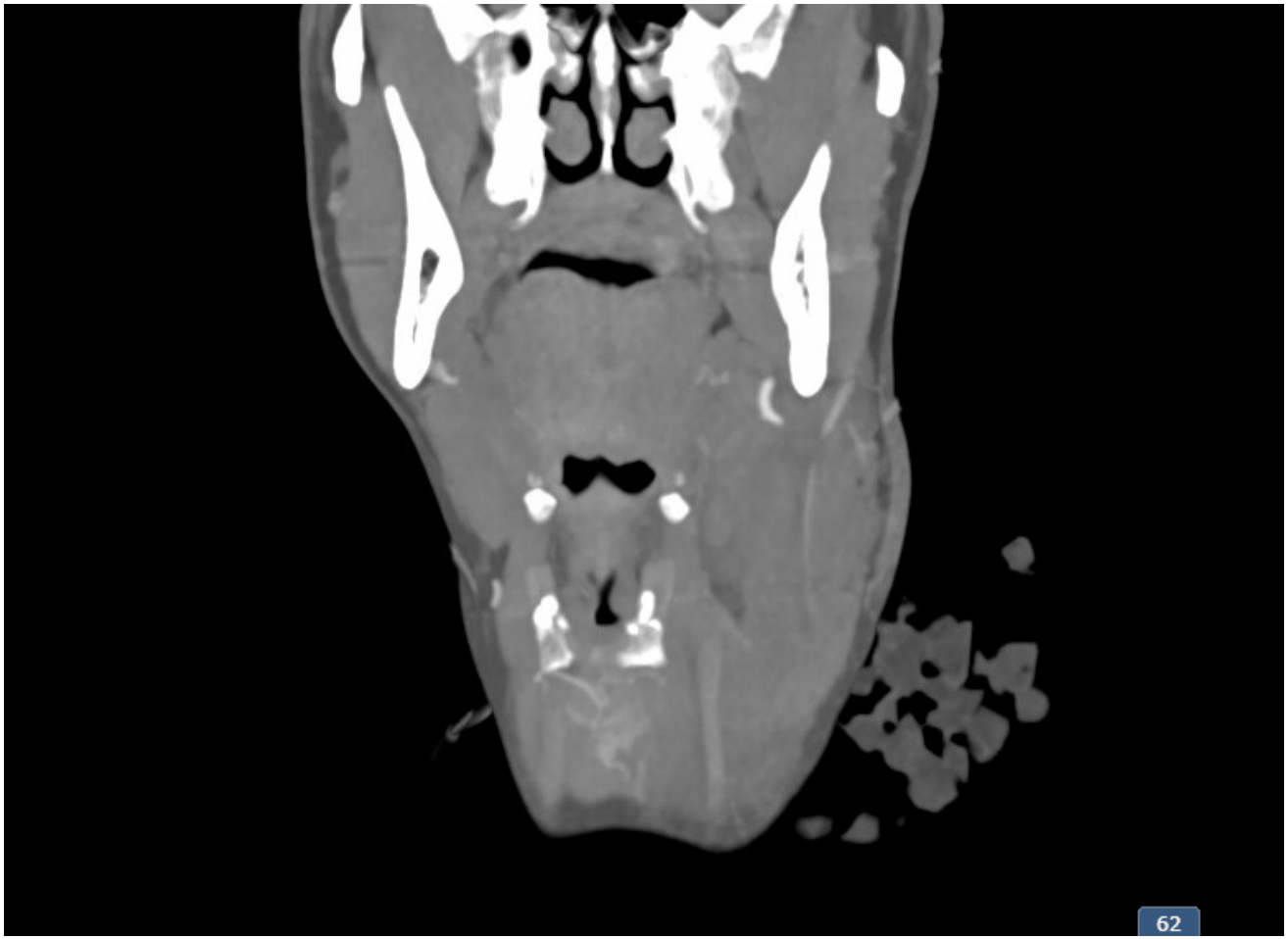

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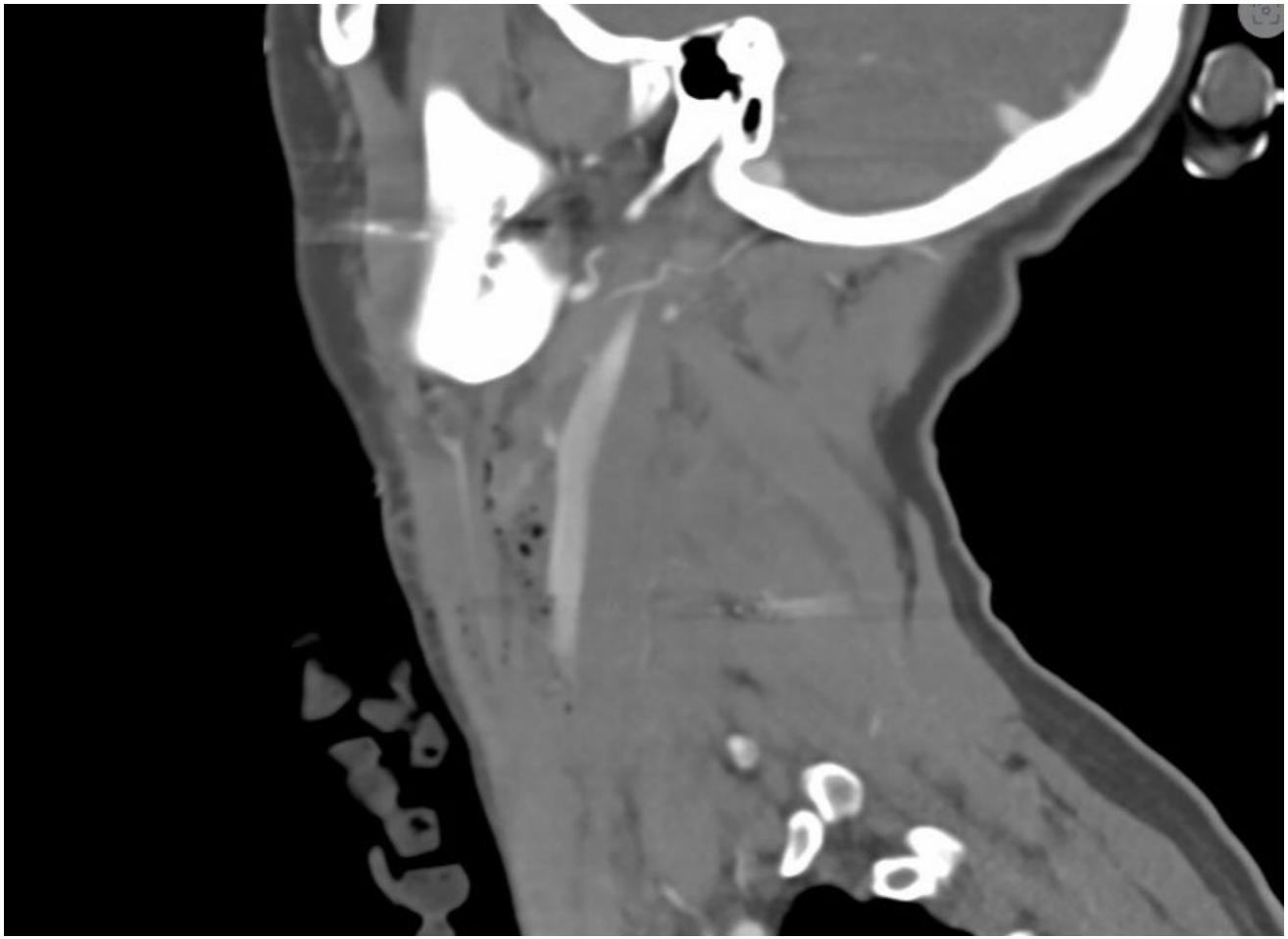
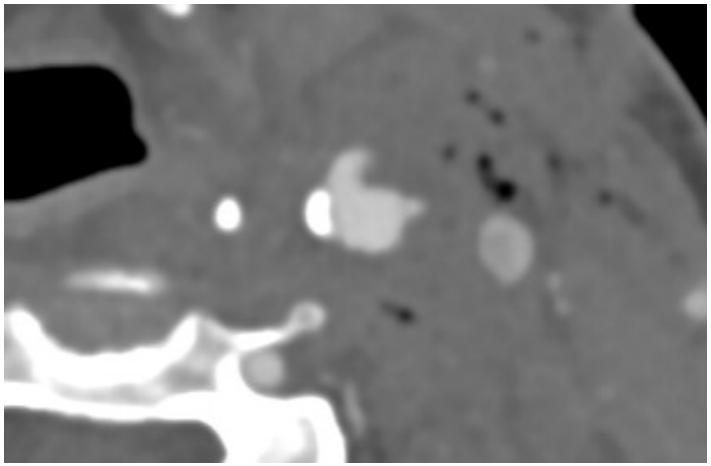
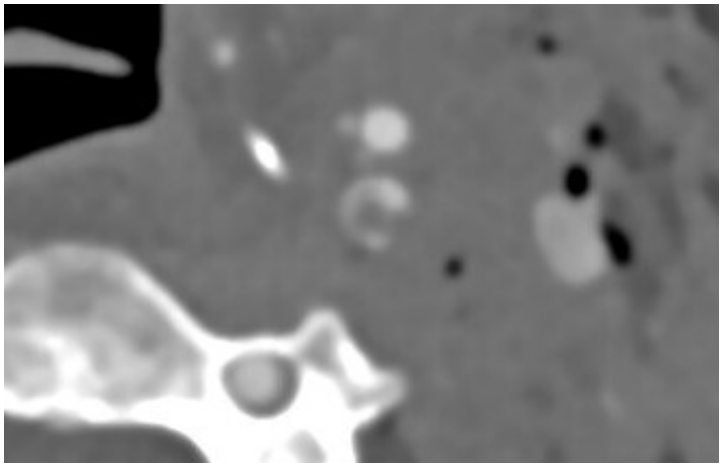


Imaging Findings

- Left common carotid artery pseudoaneurysm
- Left internal carotid artery >80% stenosis with thrombus/dissection
- No contrast extravasation
- Bullet fragment lateral to C5
- No ischemia, other injuries, bony or aerodigestive injury





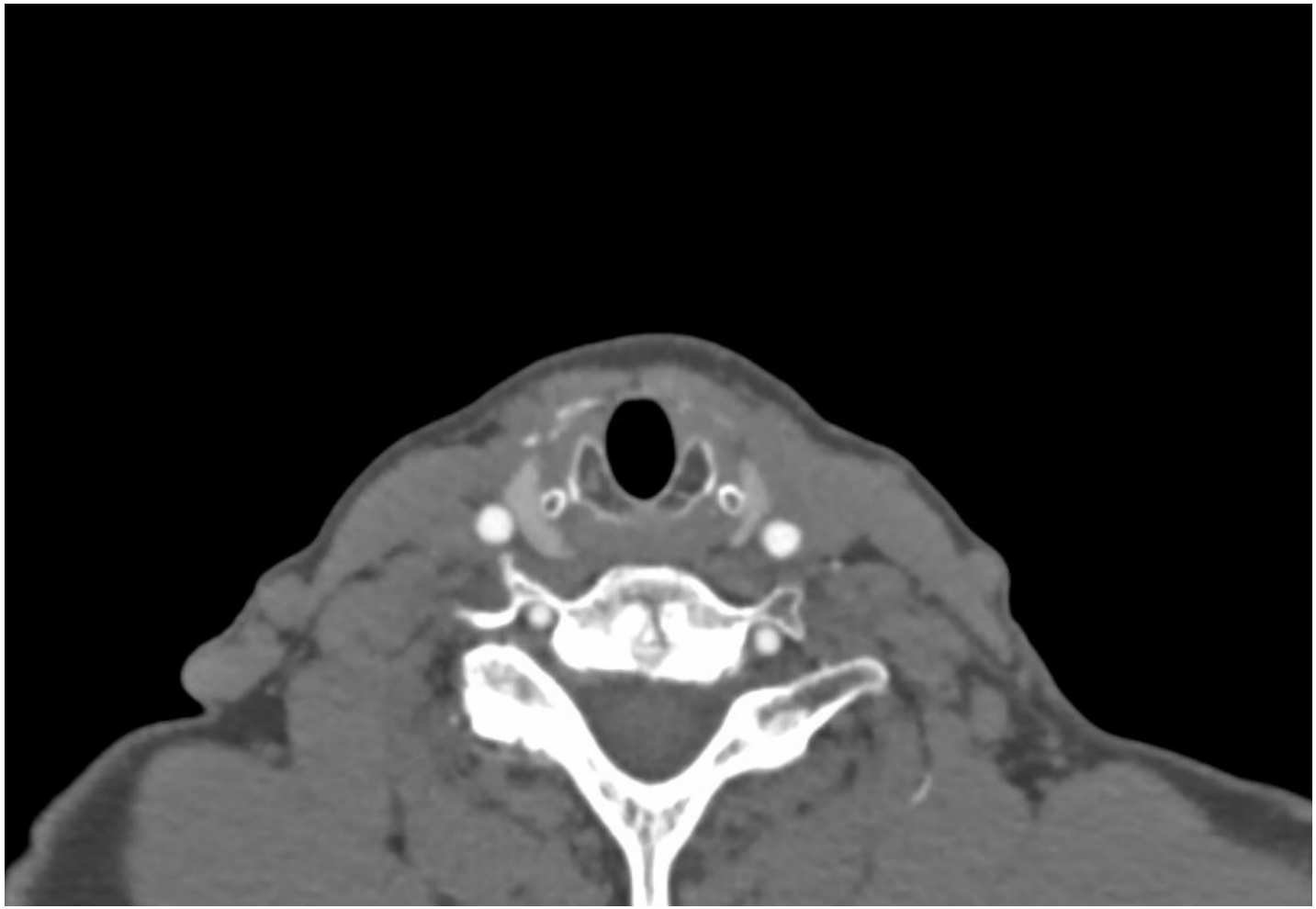
Operative Procedure

- Patient brought to OR, general anesthesia induced. Safety checklist completed.
- Two-team approach: neck exposure + right saphenous vein harvest.
- Longitudinal incision along anterior SCM; distorted planes from hematoma.
- Exposed and vessel-looped CCA, ICA, ECA. Preserved vagus & hypoglossal nerves.
- Identified 2 small defects in lateral ICA wall with intramural thrombus and severe stenosis.
- Administered 5000 units IV heparin. Clamped CCA, ICA, ECA.
- Arteriotomy performed; endarterectomy of rolled intima + plaque.
- Patched lateral ICA wall with saphenous vein using running 6-0 Prolene.
- No shunt used; excellent backbleed and post-repair Doppler flow.
- JP drain placed. SCM partially reapproximated over repair.
- Skin closed in layers; puncture wound left open to drain.
- Patient extubated, stable, and neurologically intact post-op.

Postoperative Course

- EGD and bronchoscopy on the same day performed
- No aerodigestive injuries
- Stable post-op, no neurological deficits
- Drain removed, incisions clean and dry
- Discharged home on POD 2 with ASA and antibiotics

Follow-Up & Prognosis



Questions / Discussion

- Thank you
- Open to questions