Projectile Embolus to the Pulmonary Vasculature: A Pediatric Case Report

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Case Report

- Level 1 Trauma Activation
- Thirteen year old male with penetrating single wound to the neck from metallic pellet gun
- Negative Medical or Surgical History
- ROS: Neck pain and intermittent shortness of breath. Otherwise negative
Case Report

- Vital signs within normal limits
- GCS 15
- Penetrating wound above right clavicle measuring about 5mm.
- No exit wound identified
- No other external signs of trauma
Chest X-Ray
- BB pellet in left hemithorax, no obvious pneumothorax or hemothorax

CT Chest
- BB pellet in left lung parenchyma without a discernible tract or trajectory and subcutaneous air above right clavicle
- Concern for a pseudoaneurysm between brachiocephalic artery and subclavian vein
Interventional Radiology was consulted

Ultrasound inconclusive for vascular injury

Barium swallow was negative for esophageal injury

Patient admitted to PICU for airway and hemodynamic monitoring
Case Report

On Hospital Day #2

- Patient developed a bruit on right side of neck and complained of dysphagia
- A repeat ultrasound showed a small nonexpanding hematoma
- Formal angiography performed
Pseudoaneurysm & AVF between brachiocephalic artery and subclavian vein

8mm x 5cm Viabahn stent graft deployed to occlude AVF

Fistula no longer visualized after stent graft placement
Case Report

Patient started on Aspirin 81mg

Patient was discharged home in stable condition on post-procedure day #2
Discussion

- Few case reports identified in literature discussing embolization of projectiles from penetrating injury
- Even fewer reports of pulmonary embolus
- Our patient presents a unique challenge in that he presented with an asymptomatic pulmonary embolus secondary to penetrating trauma
• Patient treated with Aspirin 81mg daily for 3 months
• Patient will need to be monitored for pulmonary infarction or other complications either from the embolus or stent-graft

- Patient seen in follow up on and doing well
- Chest CT 6 months after incident shows persistence of pellet in Left Upper Lobe
- Right Subclavian artery without abnormality
- In general, asymptomatic patients can be treated non-operatively.
- Minimally invasive techniques may be attempted in hemodynamically stable patients.
THANK YOU!
References


- Saltzstein EC, Freeark RJ. Bullet Embolism to the right axillary artery following wound of the heart. Annals of Surgery 1963; 158 (July); 65-69