Shot through the Heart

NICOLE MILLER, RCCS

AULTMAN

Introduction

- Exploring the role of imaging in cardiac trauma cases.
- We will present a case involving a GSW and the role of critical thinking and decision making in a time sensitive fashion.

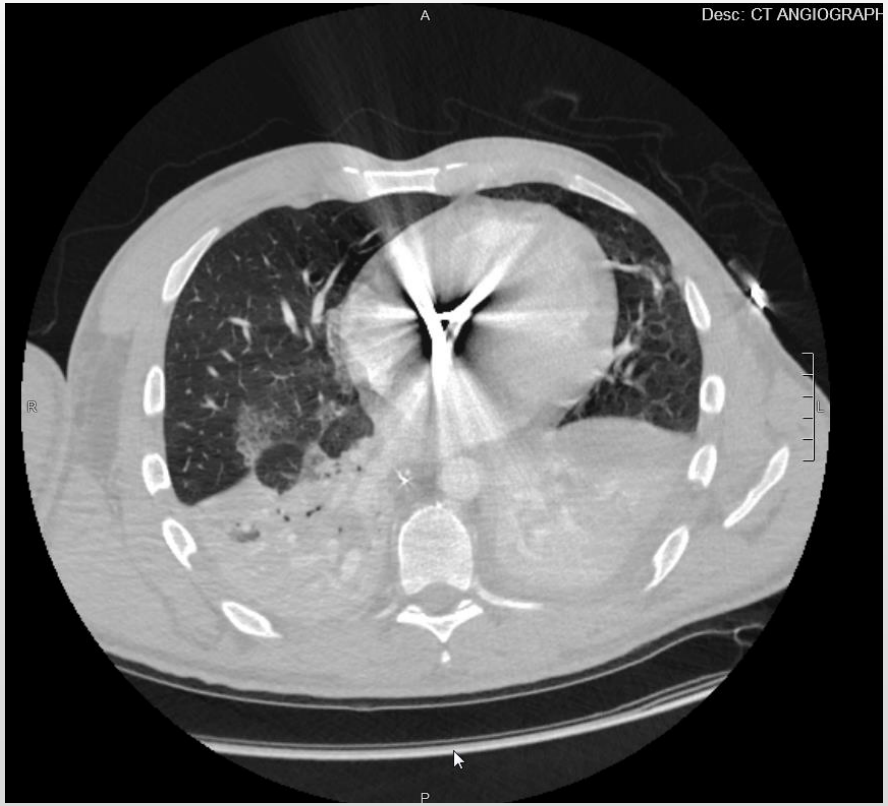
Case Presentation

- 45 yo male presents with a gun shot wound to the abdomen
- Suffering multiple visceral injuries
- CT imaging of abdomen & chest revealed liver lacerations and retroperitoneal bleeding while noting a metallic foreign body within the heart prox to IVS
- STAT TEE done to assess the intra-cardiac foreign body and heart viability

Role of imaging in clinical decision making

- Pt was hemodynamically stable but required immediate abdominal surgery.
- CT imaging was not diagnostic due to artifact from bullet fragments.
- TEE evaluation was critical in assessing cardiac injury/function, size of the fragment, presence/absence of a shunt or effusion.
- Fragment was lodged in the supra-cristal IVS without effusion or major cardiac damage.

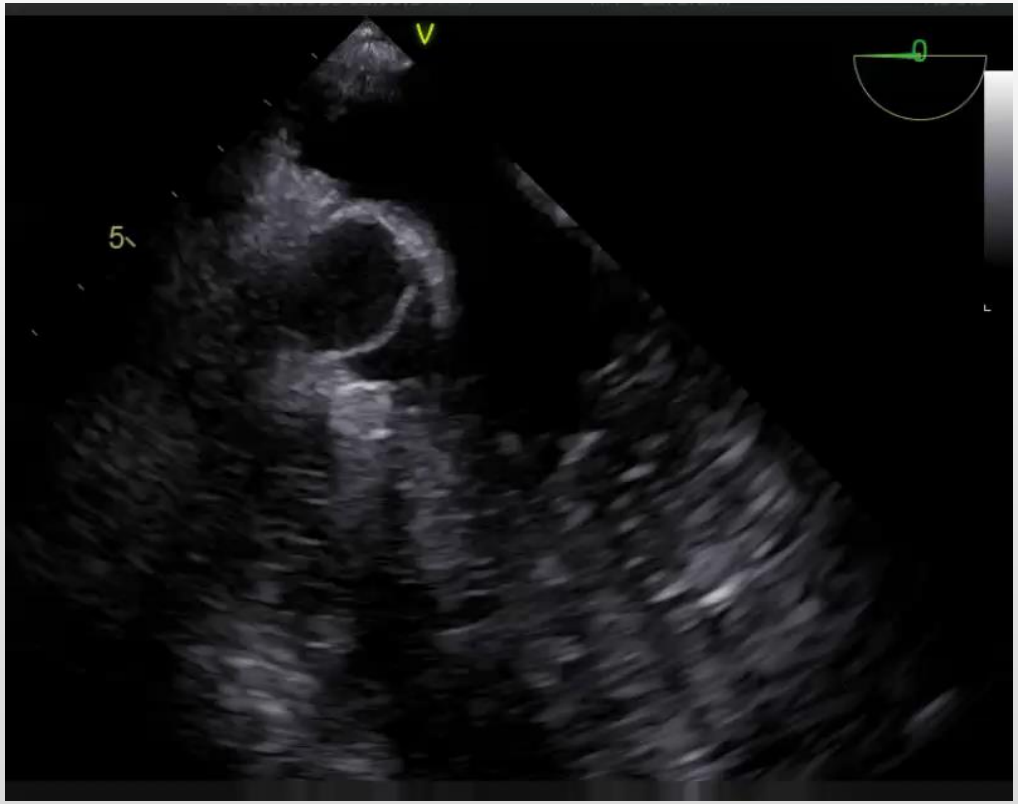
CT Imaging



- CT imaging with “Streak artifact” from metallic fragments decreases the diagnostic utility of CT in this case

TEE Imaging

TEE imaging continued



Case Discussion

- The role of TEE imaging in cardiac trauma cases has not been studied in adequate depth, especially with GSWs
- CT scan has several limitations in GSWs cases
- TEE is safe and a rapid diagnostic modality for evaluating cardiac trauma, especially for shrapnel wounds.
- TEE offers quick, reliable and comprehensive bedside evaluation of cardiac anatomy and guides treatment.

In Conclusion

- TEE is safe and rapid modality in evaluation of cardiac trauma pts
- TEE can be complementary to other for of images such as CT

Acknowledgements

- Taylor D. Palmer, RDCS
- Sharan Rufus Ponniah, MD
- Peter Kometiani, MD, PHD
- Sandeep Anreddy, MD
- Prabahakaran Gopalakrishnan, MD
- Muhammad Chaudhry, MD
- Sara Lewis, RDCS