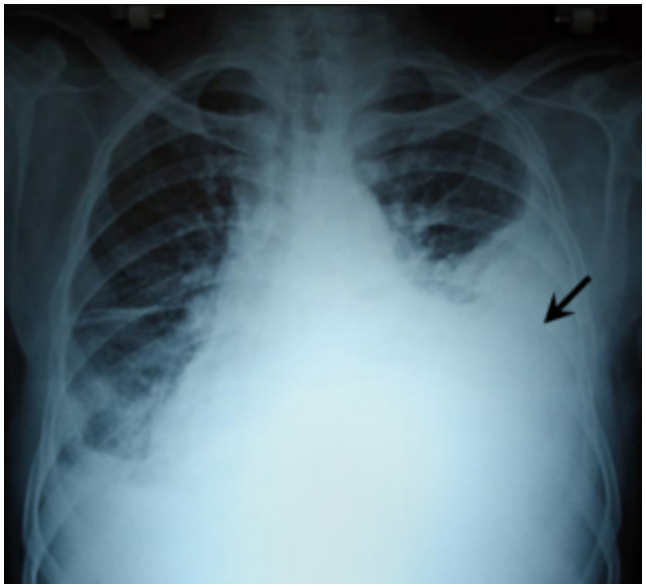
Predicting hemorrhage related outcomes with CT volumetry for traumatic hemothorax

- Bleeding into thoracic cavity: A major source of morbidity and mortality after trauma

- **What Students Will Do:**
  - Using a corpus of approximately 50 CT scans with labeled hemothorax, develop an automated (deep learning) algorithm to segment and quantify blood in the abdominopelvic region
  - A previous algorithm for the task exists as a starting point
  - Correlate blood volumes as per the algorithm with clinical measures

- **Deliverables:**
  - Minimal: An algorithm that, in principle, would be capable of performing the task
  - Expected: An algorithm that quantifies blood volume within 5% error and proper validation
  - Stretch: An advanced algorithm for the same task that can express certainty and/or is interpretable

Predicting hemorrhage related outcomes with CT volumetry for traumatic hemothorax



- **Size group:** 2 would be ideal, we can consider 1 or 3
- **Skills:** Python, PyTorch, ML experience, ideally medical image analysis experience
- **Mentors:**
  - Mathias Unberath: mathias@jhu.edu
  - David Dreizin: ddreizin@umm.edu