

5-2019

Keep Your Differential Broad This Back Pain Season Penetrating Aortic Ulceration: A Case Report

Kyle Diaz
Henry Ford Health System

Anthony Colucci
Henry Ford Health System

Follow this and additional works at: <https://scholarlycommons.henryford.com/merf2019caserpt>

Recommended Citation

Diaz, Kyle and Colucci, Anthony, "Keep Your Differential Broad This Back Pain Season Penetrating Aortic Ulceration: A Case Report" (2019). *Case Reports*. 76.
<https://scholarlycommons.henryford.com/merf2019caserpt/76>

This Poster is brought to you for free and open access by the Medical Education Research Forum 2019 at Henry Ford Health System Scholarly Commons. It has been accepted for inclusion in Case Reports by an authorized administrator of Henry Ford Health System Scholarly Commons. For more information, please contact acabrer4@hfs.org.

Keep Your Differential Broad This Back Pain Season

Penetrating Aortic Ulceration: A Case Report

Kyle Diaz DO, Anthony Colucci DO
Henry Ford Health System, Detroit, Michigan



Introduction

The chief complaint of back pain is a common occurrence in the emergency department. Our departments can be inundated with back pain, especially in the seemingly never ending winters of Michigan with resultant slips and falls. We are not only seeing traumatic back pain, but chronic back pain and atraumatic acute back pain frequent the halls of the emergency department as well. While wading through the morass of these nonspecific and often menial complaints it may become difficult for a provider to maintain a broad differential. This case will serve as a reminder to remain vigilant while working up back pain.

Case Discussion

The case is that of a 65 year old female with significant medical history including hypertension, CAD with CABG, COPD and remote history of smoking who presents to the emergency department complaining of back pain. The patient reports that she has been having mid thoracic back pain for the past 2-3 weeks. This pain is described as aching and is sharp with movement. Patient reports pain radiating to both sides with movement. Patient denies associated chest pain, shortness of breath, nausea, vomiting, neck pain, low back pain, sciatica, incontinence of stool, urinary retention. Patient does report that symptoms improve significantly with leaning forward.

A thorough examination demonstrated Para-spinal tenderness throughout the mid thoracic spine. Patient's examination was otherwise unremarkable save her vitals which showed hypertension to the degree of 180/95. Initial evaluation included AP chest, thoracic XR and basic lab work. Pain control was provided as well.

On repeat examination patient's back pain was well controlled however she remained hypertensive and was now having bilateral flank discomfort. Given that the patient was having more vague pain along with new radiating symptoms index of suspicion was raised for possible aortic disease. At this point advanced imaging was obtained and a CTA of the chest was performed.

CTA of the chest demonstrated a large penetrating aortic ulceration with associated mural thrombus. On return from CT thoracic surgery was consulted. Patient was placed on esmolol drip, Heparin drip and orders for admission to the ICU were placed. During hospital stay patient was optimized medically whilst being prepared for possible grafting of the aorta.

The patient's B-Blocker was titrated to an appropriate level to maintain SBP <120. Patient was treated with ASA, statin, and heparin drip was converted to DOAC. Regarding patient's evaluation for possible surgical repair the patient did not want to wait in the hospital for multiple social reasons and as such requested to follow up as an outpatient.

The patient presented for one month follow up CT to outpatient radiology facility. This CT demonstrated progression of disease from acute ulceration to acute aortic syndrome with Stanford type B dissection of the Aorta. Patient was urged at this time to present to the emergency department for rapid resuscitation and preparation for surgical repair. Patient refused to present to the hospital as instructed. Ultimately after prompting by her family the patient presented 24 hours later and was a direct admit to the SICU.

The patient was subsequently taken to the OR and had TEVAR performed. Patient tolerated the procedure well and post-operative course was uneventful. Patient presented for 1 month follow up CT which showed good positioning of her graft without endoleak. Patient was symptom free at time of follow up.

Imaging

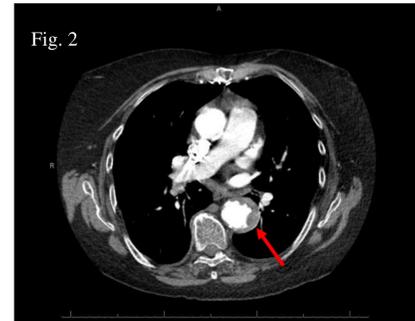
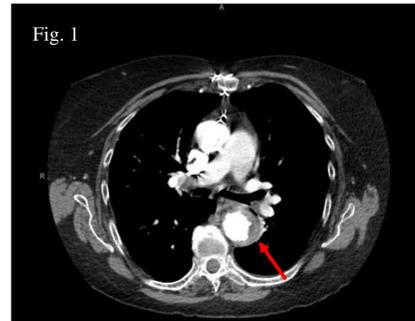


Figure 1 & 2. Initial CT demonstrating penetrating aortic ulceration

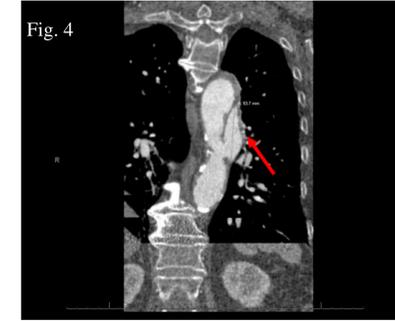
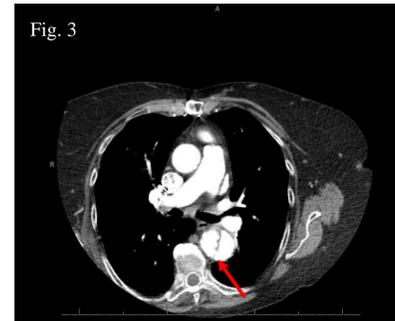


Figure 3 & 4. Follow up CT demonstrating Stanford type B dissection



Figures 5 & 6. Post-op CT demonstrating adequate placement on graft

Discussion

Classically the diagnosis of penetrating aortic ulceration is bundled under the heading of acute aortic syndromes. Most commonly aortic dissection, intramural thrombus and penetrating ulcer are the disease processes one would see under this heading.

The Diagnosis of penetrating aortic ulcer historically has been rare, the exact incidence is not clearly defined in literature. However with increased quality of imaging PAU seems have a higher precedence in our population than previously predicted (3).

PAU is thought to be associated with atherosclerotic changes in the aorta. PAU may also predispose a patient to development of intramural thrombus or aortic dissection. Of note in one study PAU was the cause of dissection in <5% of cases. There is no clear data on the odds ratio of developing dissection after being diagnosed with PAU (1).

If PAU is identified repair is indicated in patients who are symptomatic, have an accelerated growth rate or rupture. In this patient's case the later was unfortunately the indication for repair. Outcomes for these patients after endovascular repair however have proven to be remarkable with very low complication rate and 30 day post-surgical mortality (2).

Conclusion

This patient was managed aggressively initially given the fact that she was symptomatic and the PAU was thought to be the culprit for the patient's symptoms. Ultimately the definitive care for her PAU was to be medical optimization and close follow up with CT. This follow up did capture the very real risk that a PAU has to proceed to an aortic dissection.

This patient was successfully treated and serves as a reminder to all ED providers to maintain vigilance and always keep a broad differential. We are often inundated with vague complaints such as back pain, with non-specific associated symptoms. This case should reiterate that our clinical clues are our guides and should we heed those clues in front of us we can identify critical diagnoses prior to them becoming a life threatening issue.

Sample Bibliography

- Gifford, S., Duncan, A., Greiten, L., Glovicxki, P., Oderich, G., kalra, m., . . . Bower, T. (2016). The natural history and outcomes for thoracic and abdominal penetrating aortic ulcers. *Society for Vascular Surgery*, 1182-1188.
- Nathan, D., Boonn, W., Lai, E., Wang, G., Desai, N., Woo, E., . . . Jackson, B. (2011). Presentation, complications, and natural history of penetrating atherosclerotic ulcer disease. *Society for Clinical Vascular Surgery*, 10-15.
- tsai, t., nienaber, c., & eagle, k. (2005). Acute Aortic Syndromes. *Contemporary Reviews in Cardiovascular Medicine*, 3802-3813.