Low Back Pain Secondary to a Duodenal Ulcer

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Background

- Low back pain is the leading cause of disability worldwide.
- Acute low back pain is the fifth most common cause for physician visits in the United States.
- The differential diagnosis of acute low back pain should include mechanical, non-mechanical, and visceral causes.
  - Mechanical (i.e. Lumbar strain, degenerative disease, spinal stenosis, compression fracture, spondylosis, spondylolysis, spondylolisthesis, congenital disease)
  - Non-Mechanical: (i.e. infection, malignancy, inflammatory arthritis)
  - Visceral: (i.e. pelvic organs, renal disease, vascular disease, gastrointestinal disease)

Case Presentation

- 48-year-old male with a past medical history of chronic low back pain presented as a follow-up to the interventional pain clinic via telehealth with complaints of acute on chronic back pain for 1 week.
- His symptoms were described as constant, achy mid-low back pain with no radiation to the legs.
- Symptoms were aggravated by lying down, escalated to a 10 in severity, and often awoke him at night.
- He endorsed some stomach distress but denied melena, hematochezia, nausea, vomiting, urinary incontinence, saddle anesthesia, fevers or chills.
- Review of previous thoracic and lumbar MRIs demonstrated a disc osteophyte complex at T7-8 and minimal lumbar spondylosis.
- He was referred to his PCP for GI and cardiac workup, which was not completed due to COVID-19.
- One month later, he presented to the ED after a syncopal episode with associated dark stools, bright red blood per rectum, and low hemoglobin.
- The patient was determined to have a bleeding duodenal ulcer on EGD and was treated surgically.
- His acute on chronic back pain subsequently resolved.

Imaging

Figure 1. Lumbar MRI

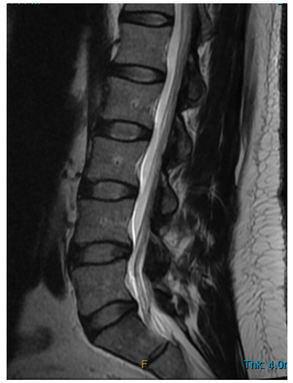
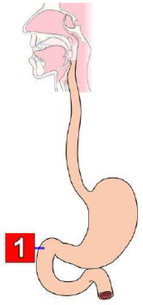
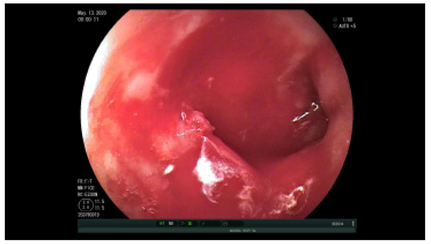


Figure 2. Upper Endoscopy



Upper Gastrointestinal Tract



1 Duodenal Bulb : Ulcer with active arterial bleeding

Impression of Upper Endoscopy:

- One non-obstructing spurting cratered duodenal ulcer with spurting hemorrhage was found in the duodenal bulb. The lesion was 20 mm.
- For hemostasis, one hemostatic clip was successfully successfully placed. Bleeding diminished to an ooze.

Discussion

- In this case, the source of the acute on chronic low back pain was likely referred visceral pain from a duodenal ulcer.
- Although duodenal ulcers typically present with symptoms such as upper abdominal discomfort and bloating, there has been one previously reported case of low back pain from a duodenal ulcer.
- There are several proposed mechanisms for referred visceral pain.
- One commonly accepted theory is convergence
  - Primary sensory neuron from a visceral organ and somatic structure both converge onto a second-order neuron in the spinothalamic tract.
- Other proposed mechanisms include:
  - Altered brain-gut interactions
  - Peripheral sensitization of viscera through persistent noxious stimulation.

Conclusion

- The differential diagnosis for acute low back pain can be broad and should include referred visceral pain from a duodenal ulcer.

References

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