

Psoas Muscle Spasm after Splanchnic Neurolysis for Intractable Epigastric Pain in Chronic Pancreatitis: A Case Presentation

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Introduction

We present a case of a 75-year-old male with a history of intractable epigastric pain attributed to chronic pancreatitis. He was referred to our pain management service for further treatment after multiple celiac plexus blocks failed to alleviate his symptoms, and he ultimately developed severe lower abdominal/flank pain due to psoas muscle spasm after bilateral splanchnic neurolysis.

Methods

Informed consent was obtained for case presentation. IRB approval was waived.

Case Presentation

We present a case of a 75-year-old male patient with a history of chronic pancreatitis complicated by intractable epigastric pain that remained unresponsive to standard treatment modalities. He had a six-year history of chronic pancreatitis with fluctuating symptoms. His pain was periumbilical with radiation to bilateral upper quadrants. Despite receiving multiple analgesic medications and undergoing multiple celiac plexus blocks via endoscopic ultrasound, he continued to suffer from debilitating pain which significantly impaired his quality of life. Subsequently, the decision was made to proceed with bilateral splanchnic neurolysis as a therapeutic intervention.

Under MAC sedation in the OR suite, fluoroscopic guided imaging techniques were used to successfully perform bilateral splanchnic neurolysis using 10ml of 98% ethanol bilaterally at the level of the T12 vertebral body. The patient tolerated the procedure well with transient post-procedural hypotension. There were no immediate complications, and the patient was discharged home from recovery.

Case Presentation Continued

The patient was admitted to the hospital five days post-procedure with chest and abdominal pain. Chest pain workup was negative and resolved spontaneously overnight. However, his LLQ abdominal pain persisted. The inpatient pain service started a morphine PCA and steroid taper for possible neuritis. He had mild improvement in his pain and was discharged after two days.

He then re-presented to the ED 48 hours later with uncontrolled left flank/deep LLQ pain that was refractory to his home opioid regimen. On physical exam, he was not tender to palpation over LLQ but did have some left flank tenderness to palpation. No rebound tenderness. Bilateral lower extremity strength and sensation were intact. His lab work was unremarkable. CT and MRI were completed and demonstrated no acute process including infection or hematoma formation. With no clear etiology of his pain, a morphine PCA was started which resulted in only mild improvement in his pain. Two days later, he was started on baclofen which provided complete resolution of his pain.

He was weaned off his home opioid regimen and at two-week follow-up the patient continued to report complete resolution of his pain. With no other clear etiology of his LLQ and left flank pain, it is believed that his pain was the result of a psoas muscle spasm secondary to the needle trajectory through the origin site of the iliopsoas muscle for his splanchnic neurolysis.

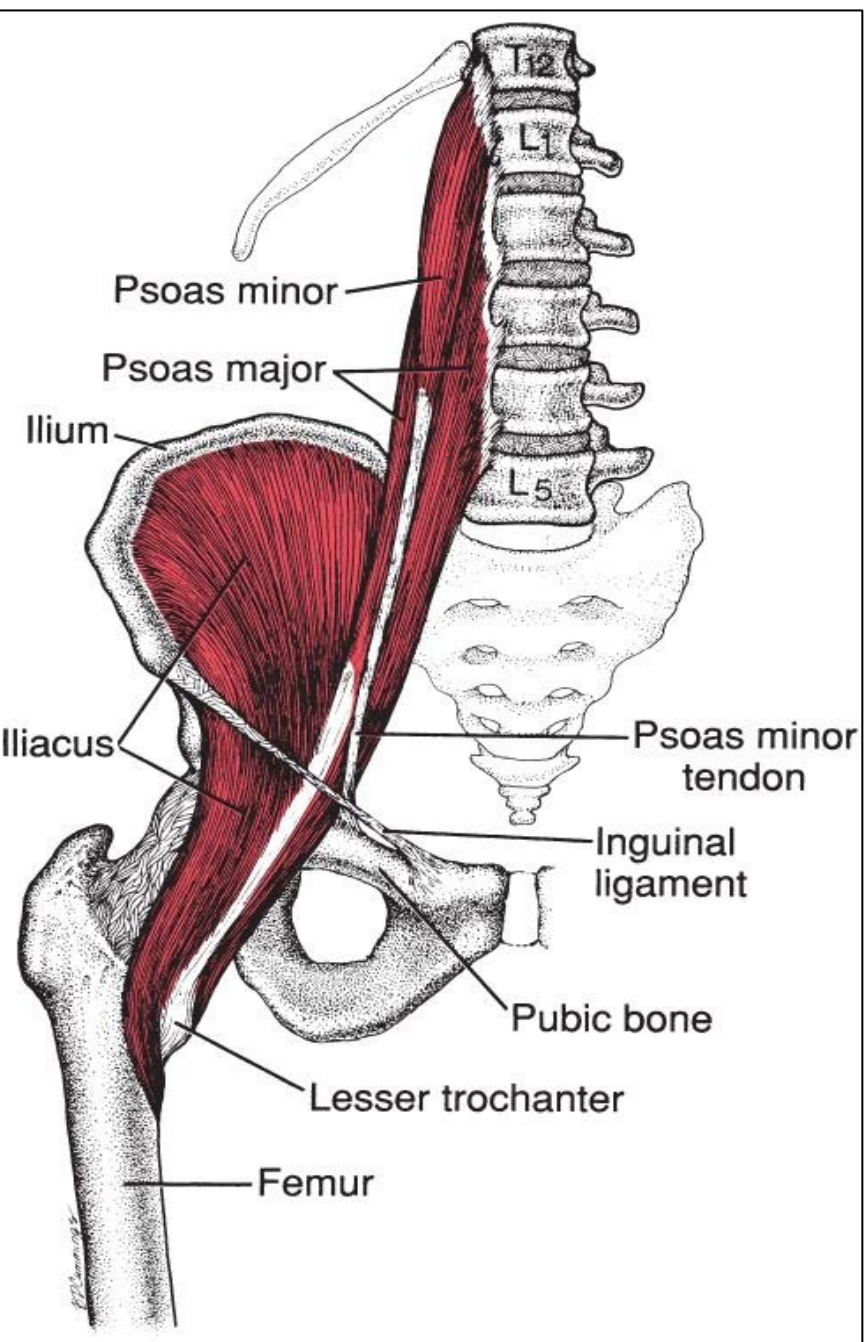


Figure 1: Attachments of Psoas major, minor, and iliacus muscles

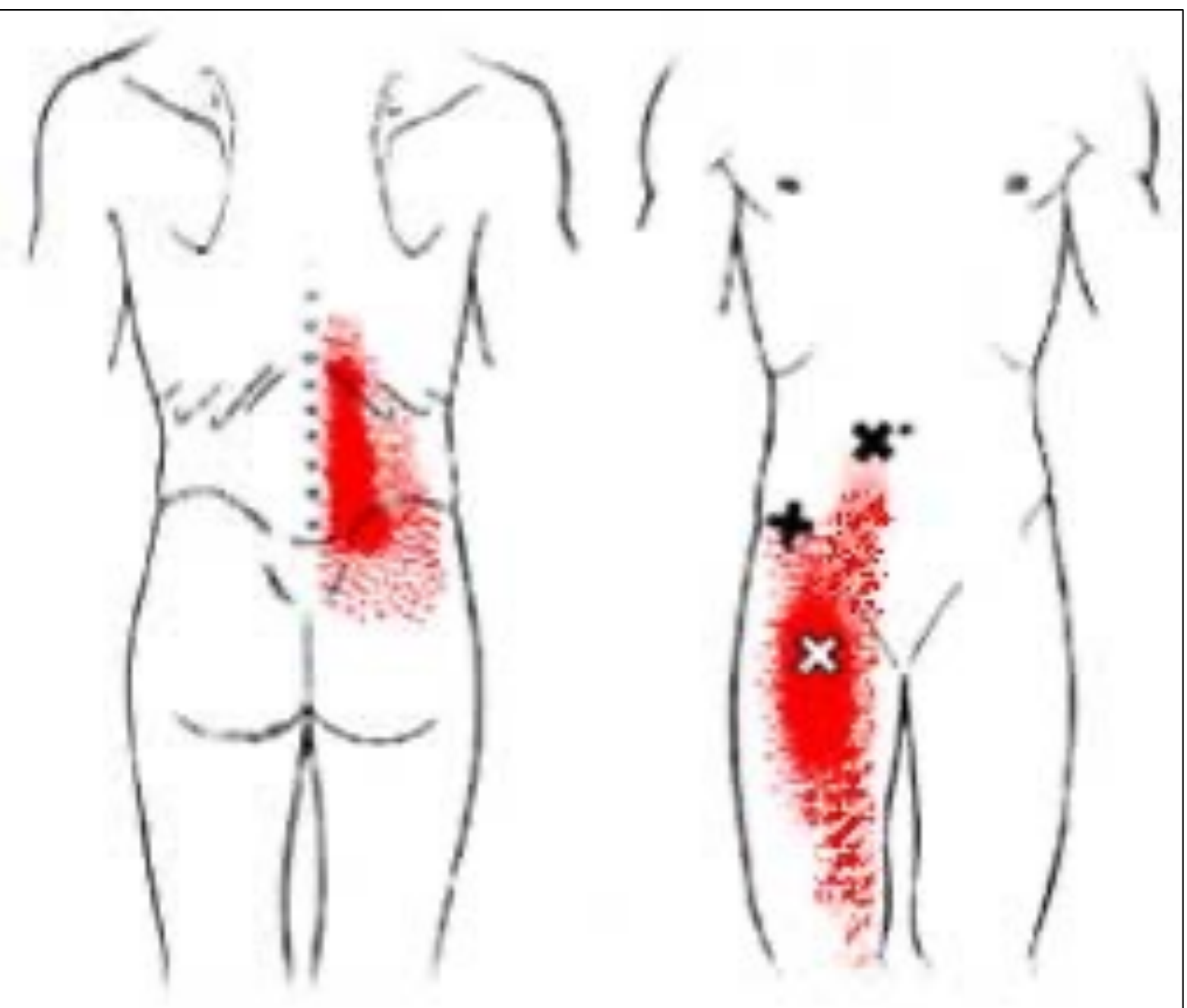


Figure 2: Pain referral pattern from iliopsoas muscle trigger points

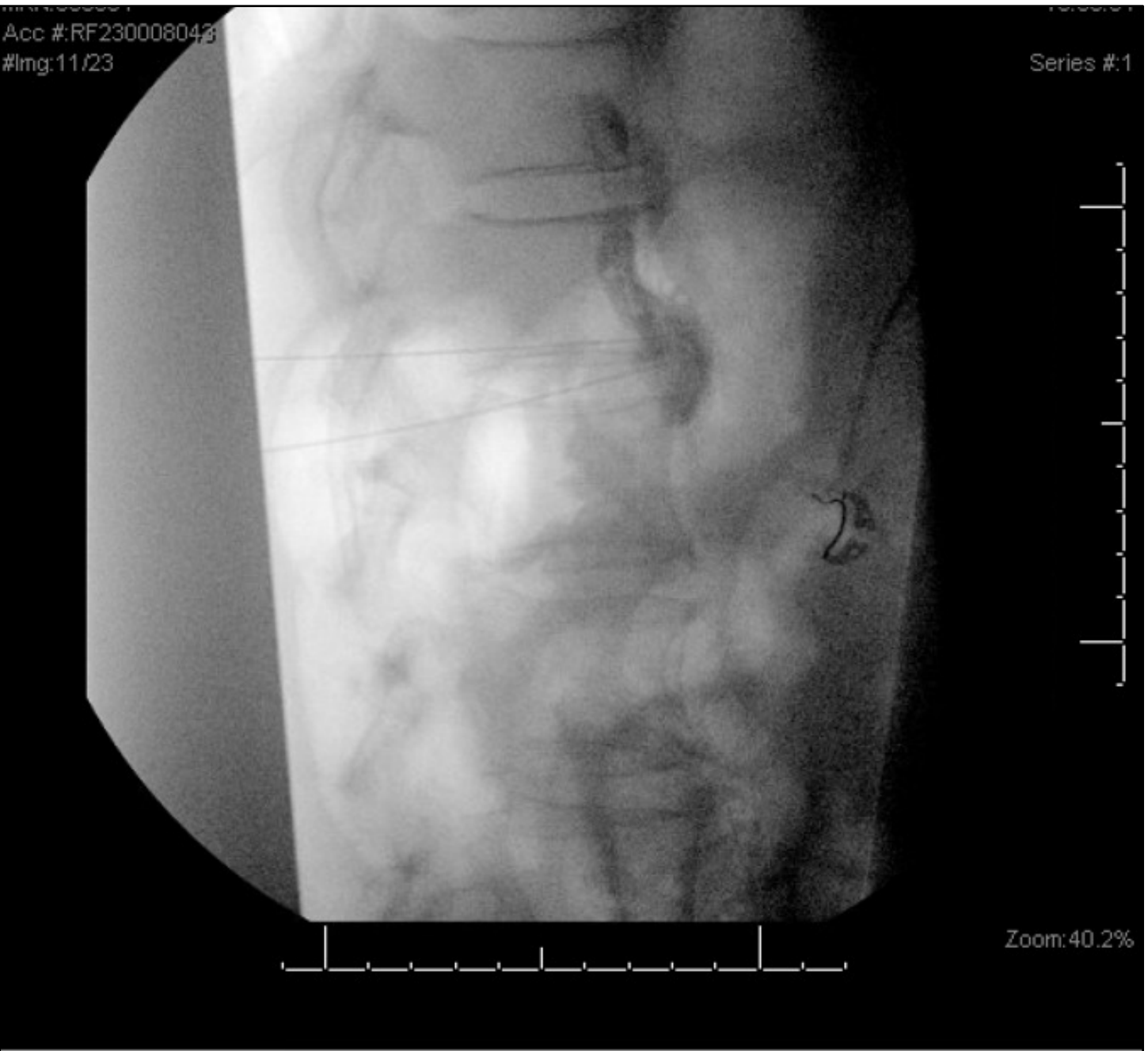


Figure 3: Lateral fluoroscopic image demonstrating contrast spread along T12 vertebral body

Discussion

Splanchnic neurolysis has emerged as a promising intervention for the management of long-term analgesia for abdominal pain. By targeting the splanchnic nerves responsible for transmitting pain signals from the abdominal organs, this procedure aims to provide relief in cases of severe, intractable abdominal pain. Conditions such as chronic pancreatitis, pancreatic cancer, and abdominal malignancies are all possible conditions that may benefit from splanchnic neurolysis.

The needle insertion site for bilateral splanchnic neurolysis is at the lateral borders of the T12 vertebral body, and the psoas muscle originates from the anterior bodies and transverse processes of T12-L5. Therefore, the needle is very likely to traverse the psoas muscle during the procedure, which is likely what resulted in a painful spasm that was relieved by Baclofen in this patient. Iliopsoas muscle pain can be referred to the flank, upper buttocks, lower abdomen, or upper thigh.

This case demonstrates psoas muscle spasm as a complication from splanchnic neurolysis and stresses the importance of vigilant post-procedural monitoring and the consideration of muscle-related complications in the work-up of patients who develop post-procedure pain.

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