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Case Report
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Hemorrhagic Abdominal Mass Presenting as Shoulder Pain in the Emergency Department

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Abstract

Shoulder pain is a common complaint in the Emergency Department (ED) and it is often secondary to musculoskeletal causes. Patients who have multiple presentations to the ED with a similar chief complaint and no indications of musculoskeletal etiology should be evaluated for differential diagnosis based on the potential for referred pain. We present a case of a patient who had several ED and outpatient visits over the course of 18 months for shoulder pain. Initial imaging studies were unremarkable and the patient was discharged with instructions for conservative pain management. The patient developed abdominal pain several months after the onset of shoulder pain, prompting further investigation. Abdominal and pelvic CT scans revealed a large intra-abdominal tumor herniating the patient's diaphragm. The shoulder pain was determined to be secondary to diaphragmatic irritation. The patient underwent emergent surgery to remove the mass from the adjacent structures. The final pathology for tumor was positive for synovial sarcoma.

Keywords: Referred pain; Synovial cell carcinoma; Shoulder Pain

Case Presentation

Shoulder pain is a very common complaint in the Emergency Department (ED). The anatomy of the shoulder permits extensive movement [1]. This potential for movement generates instability in the joint, leading to increased risk for injury [2]. When patients have a benign physical exam and negative imaging for musculoskeletal etiologies in the ED, they are usually discharged home with instructions for pain control and outpatient follow up. If a patient presents on several visits with worsening shoulder pain that is unresponsive to conservative therapy, medical providers should consider broadening their differential beyond musculoskeletal causes of pain.

A 50 year-old female presented to the ED with shoulder pain. The patient would proceed to have several ED and outpatient visits over an 18-month span with the complaint of left shoulder pain. Additionally, the patient was admitted for anemia and required a blood transfusion four months prior. At that time, there were no obvious sources of bleeding. The patient was discharged home with a diagnosis of aplastic anemia.

During her most recent ED visit, the patient reported worsening left shoulder pain. She had recently undergone an outpatient MRI of her left shoulder, which reportedly showed arthritis. Results from the MRI were not available for review. She was undergoing conservative treatment for bursitis and arthritis at that time. The patient stated that her shoulder pain had been worsening and it was unresponsive to treatment with anti-inflammatories and narcotic pain medication.

The patient also reported a four-month history of worsening epigastric abdominal pain. The patient stated that she had recently undergone a colonoscopy and esophagogastroduodenoscopy. According to the patient, the results of these procedures were within normal limits. There were no records available from either of these procedures and there was no prior abdominal imaging at our institution. The remainder of the patient's past medical history and past surgical history was unremarkable.

The physical exam revealed diffuse abdominal tenderness, worst in the epigastrium. Examination of the patient's left shoulder was unremarkable with no overt signs of musculoskeletal pathology or reproducible pain with palpation or range of motion. Laboratory evaluation showed a decrease in the patient's hemoglobin by nearly 3 gm/dL when compared to the hemoglobin drawn ten days prior. CT scan of abdomen and pelvis showed a large heterogeneous mass measuring greater than 19 cms in the left upper abdomen herniating into the left hemidiaphragm and left thoracic cavity with suspected active hemorrhage within the mass (Figure 1 and 2). The patient was admitted to

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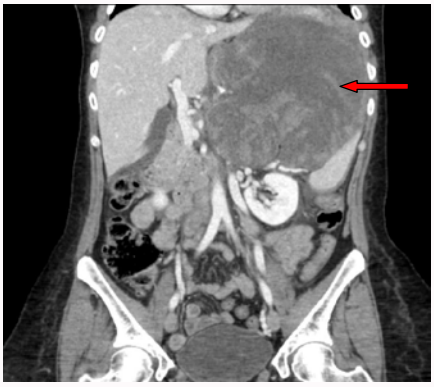

Figure 1: This is a coronal image of the CT abdomen and pelvis. The red arrow shows the intraabdominal mass herniating through the diaphragm into the left thoracic cavity with suspected active hemorrhage.

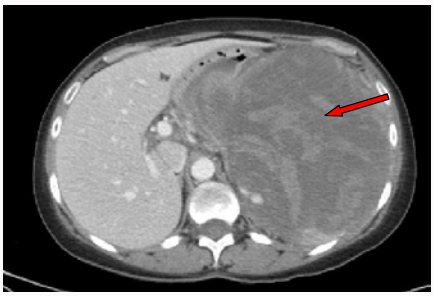

Figure 2: This is an axial image of the CT abdomen and pelvis. The red arrow shows the heterogeneous, predominantly cystic mass in the left upper abdomen measuring greater than 19 cms.

general surgery and she underwent emergent extensive abdominal and thoracic surgery to remove the mass from the adjacent structures. Final pathology was positive for synovial sarcoma arising from the left abdomen.

Synovial sarcoma is a rare soft-tissue sarcoma that originates from primitive mesenchymal cells. Tumors normally present in the lower extremities, commonly in the popliteal fossa; however, there are several documented cases of synovial sarcoma arising in the chest wall, heart, mediastinum, lungs, head, neck, and other unusual sites. Intra-abdominal synovial sarcomas are rare and patients often experience symptoms for years before diagnosis [3].

Patients can have referred shoulder pain arising from multiple etiologies. Extrinsic causes of shoulder pain include diaphragmatic irritation, apical lung tumors, pneumonia, myocardial ischemia, cervical nerve root compression or metastases [4]. When evaluating for extrinsic causes of shoulder pain, the provider must obtain a detailed history and physical examination. Important clues pointing to a cause other than a primary musculoskeletal disease include a history of cancer, weight loss, rash, neck pain, chest pain, respiratory symptoms and neurologic symptoms [5]. If the patient's shoulder pain is secondary to referred pain, it is often difficult to localize and reproduce. It is also often unaffected by palpation or range of motion [4].

Conclusion

It is important that emergency medicine physicians evaluate for alternative etiologies of pain, taking into special consideration the possibility of referred pain. Evaluating for potential causes of referred pain is especially important in cases of repeated emergency department visits for the same complaint unresponsive to traditional therapies.

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