



Shoulder Pain as a Harbinger of Rectal Cancer

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Introduction:

- Initial evaluation of shoulder pain includes consideration of a variety of intrinsic and extrinsic etiologies
- These causes can be assessed for through a combination of careful history and physical examination
- At times, there can be **red flag signs and symptoms** that suggest the consideration of **early imaging** and the possibility of **systemic pathologies**
- Distal osseous metastases can be associated with malignancy, including colorectal cancer
- Thus **shoulder pain with bony lesions** should **raise an index of suspicion for malignancy**

Case:

A 56-year-old healthy woman presented for further work-up and evaluation of shoulder pain and consideration of rheumatologic etiologies to explain her presentation.

Prior to Admission:

- 2 months prior to admission: gradual onset of left shoulder pain
- Diagnosed in clinic with frozen shoulder and given an intra-articular steroid injection without response
- Developed progressive proximal muscle weakness and spontaneous bruising, thus trialed on a course of steroids for presumed polymyalgia rheumatica without improvement
- 1 month prior to admission: developed low-grade fevers, back pain, hematochezia, and a 20-pound unintentional weight loss
- 2 weeks prior to admission: hospitalized at a outside facility with neurology and infectious disease consultations, no imaging performed, and no etiology determined

On Admission:

- Febrile and tachycardic with exam notable for pain on palpation of the lateral left shoulder and inability to raise her left upper extremity off the table, in addition to multiple ecchymoses on her abdomen and lower extremities
- Labs with leukocytosis, anemia, thrombocytopenia, hypercalcemia, elevated alkaline phosphatase, coagulopathy, and elevated inflammatory markers
- Shoulder X-ray with evidence of a comminuted, pathologic left humeral neck fracture (**Fig. 1**)

9.5	134	95	29	139	12.4	91
21	3.3	29	0.95		2.2	33
97					6.7	588
29.1					0.6	
INR 1.48	CK 596	CRP 292				
PTH 13	Aldolase 217	ESR 96				

During Course of Admission:

- Given the concern for underlying malignancy, a CT scan of the chest, abdomen, and pelvis was performed and identified mid rectal wall thickening with prominent adjacent lymph nodes (**Figs. 2 and 3**)
- Flexible-sigmoidoscopy revealed a large, friable, non-obstructing rectal mass at 10 cm, along with more proximal masses (**Fig. 4**)
- Pathology confirmed the diagnosis of poorly differentiated rectal adenocarcinoma
- Hypercalcemia of malignancy was treated with fluids and bisphosphonates
- Humeral neck fracture was managed conservatively
- Ultimately the patient returned home with plans to follow with a local oncologist for initiation of chemotherapy

Discussion:

- Fractures are an important consideration in the evaluation of shoulder pain
- When a **pathologic fracture** is seen in a **non-traumatic setting**, it should **raise suspicion for malignancy**
- Osseous metastases can largely be accounted for by breast, prostate, renal, and thyroid cancers
- Rarely (approximately 1%), skeletal metastases are due to colorectal cancer
- This case highlights an unusual presentation of rectal adenocarcinoma as shoulder pain related to a distal osseous metastasis
- This case also **underscores the importance of early imaging** and maintaining broad differential diagnoses

Figure 1:



Figure 1. X-ray of the left shoulder demonstrating a comminuted, pathologic left humeral neck fracture

Figure 2:



Figure 2. CT imaging of the abdomen/pelvis with asymmetric mid rectal wall thickening suggestive of primary rectal cancer

Figure 3:

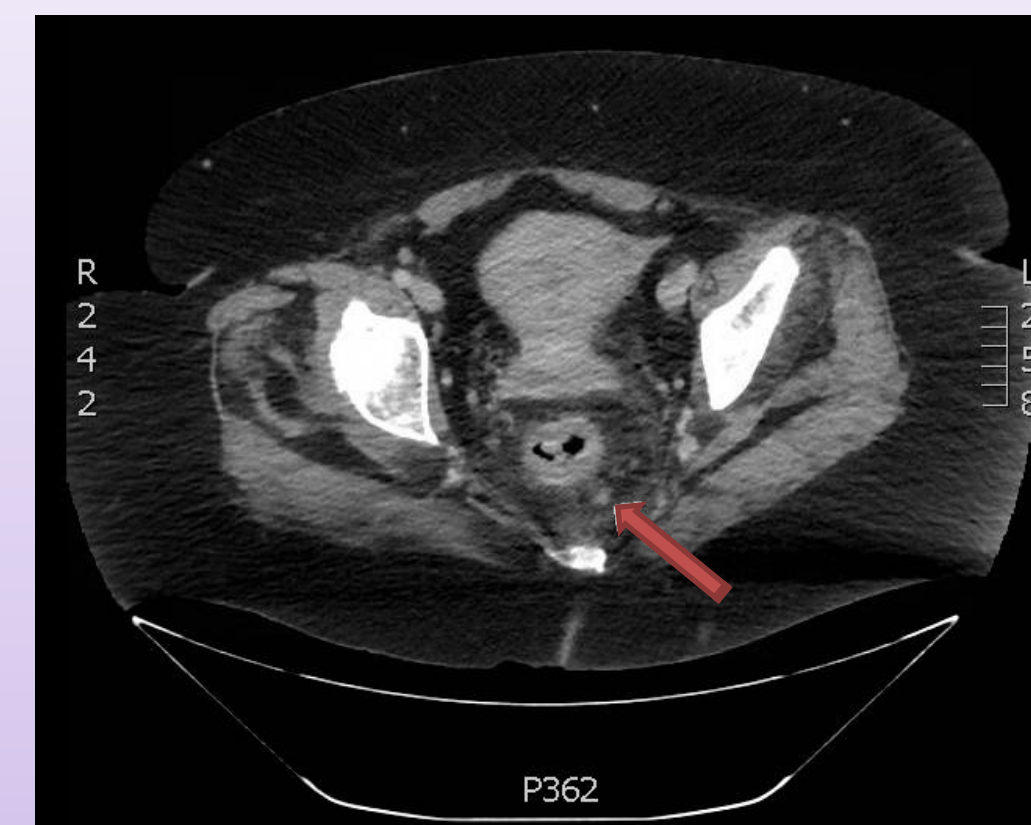


Figure 3. CT imaging of the abdomen/pelvis with prominent mesorectal lymph nodes in the area of rectal wall thickening

Figure 4:

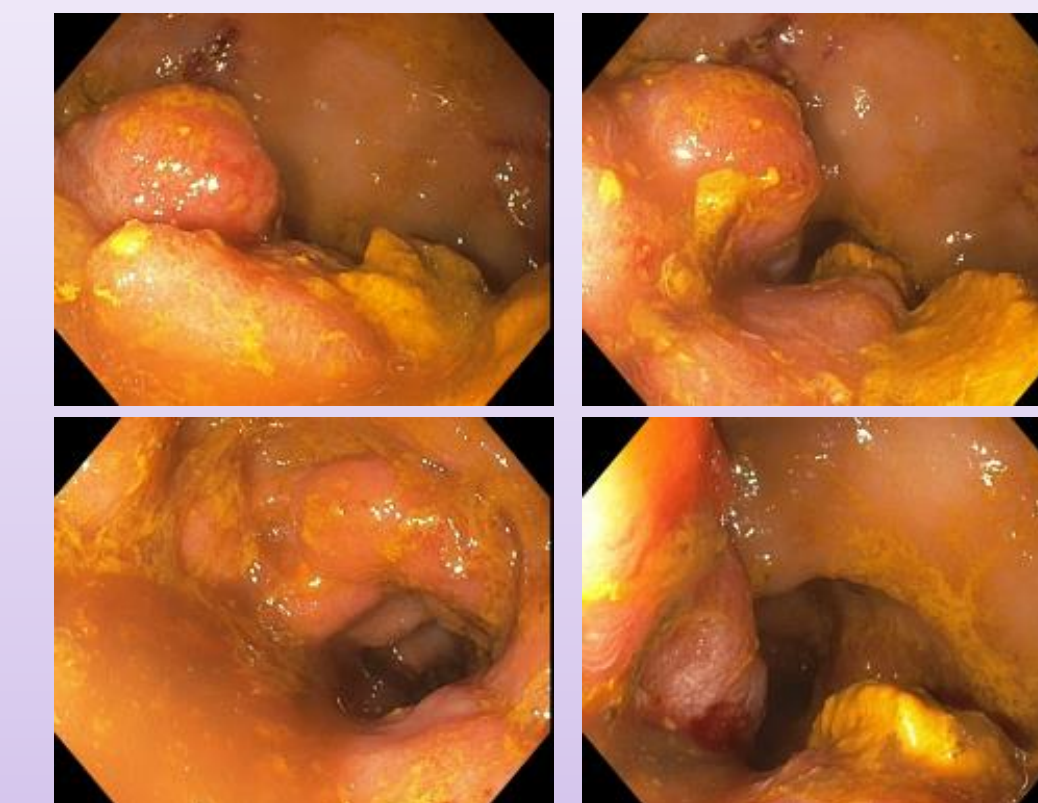


Figure 4. Images from flexible sigmoidoscopy demonstrating a large, friable, nonobstructing rectal mass at 10 cm, and additional masses at 15 cm and from 12 to 20 cm with ulceration

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