50 year old lady with painful mass in thigh

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Disclosures

• No conflict of interests to report.
History of presenting Illness

- 50 year old African American lady presented with pain and tenderness over right thigh for 3 weeks.
- Initially seen at another facility
- Underwent imaging with magnetic resonance imaging of the right thigh which showed mass - unknown period of time.
• Initially evaluated by orthopedics and general surgery.
• No reports of fevers
• No history of increased weight loss, chest pain, or shortness of breath.
• No long distance travel.
• No history of long standing trauma.

• Underwent biopsy of mass.
• Past Medical History:
  - Hypertension
  - Small bowel obstruction s/p exploratory laparotomy

• Social History:
  - Not a known smoker
  - No history of alcohol abuse
  - No history of illicit drug use.

• Family History:
  - No history of autoimmune disorders, sickle cell disease.
• Initially discharged home with outpatient follow up with orthopedics and surgery.

• Patient readmitted 2 weeks later with increasing pain in bilateral lower extremities and inability to walk.

• No fever at the time of admission. No recent trauma in the intervening period.

• Neurology consulted.
Examination:

ヴィタルズ - BP: 161/87, pulse: 65/min, Temp: 98.8 F

システム的検査 -

- HEENT: Atraumatic normocephalic. Mild pallor noted, no icterus
- Respiratory: Normal breaths sound auscultated in all lung fields
- Cardiovascular: S1, S2 hear, no murmurs
- Abdominal: No tenderness to palpation, no organomegaly
- Lymphatic: No lymphadenopathy palpated
- **Extremities**: Exquisitely tender to palpation, right medial midshaft thigh soft tissue mass 10 cm x 4 cm in size. Fixed to muscle, no induration noted. 2+ Diffuse edema from this point distal to the foot in right lower extremity. No erythema or skin changes. 1+ edema over left lower extremity. Distal pulses palpable.
- **Neurological:**
  - Cranial nerves intact II through to XII
  - **Motor:** Tone normal with strength 4+/5 diffusely.
  - **Sensory:** reduced to pin prick, and proprioception in bilateral lower extremities, symmetrically, in a stocking fashion
  - **Reflexes:** 1/4 over biceps bilaterally, 1/4 over triceps bilaterally, knees trace bilaterally, trace ankle bilaterally, planters downing bilaterally.
  - **Cerebellar:** Finger nose finger normal.
Labs:

- Cr 1.44, Glucose 359.
- CRP: 6.20
- ESR: 96.0
- CK: 521
- Aldolase: 11.4
- ANA, Anti Hep-2 substrate Ab, Myopathy panel: Negative
<table>
<thead>
<tr>
<th>Inflammatory:</th>
<th>Neoplastic:</th>
<th>Miscellaneous:</th>
</tr>
</thead>
<tbody>
<tr>
<td>- Abscess</td>
<td>Lipoma</td>
<td>- Myositis ossificans</td>
</tr>
<tr>
<td>- Necrotizing fasciitis</td>
<td>Liposarcoma</td>
<td>- Trauma/hematoma</td>
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<tr>
<td>- Infective myositis</td>
<td>Rhabdomyosarcoma</td>
<td>- Post radiation necrosis</td>
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<tr>
<td>- Inflammatory myositis</td>
<td>Leiomyosarcoma</td>
<td>- Sickle cell disease</td>
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<tr>
<td>- Pyomyositis</td>
<td>Metastases</td>
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<tr>
<td>- Sarcoidosis</td>
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<tr>
<td>- Myonecrosis</td>
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<tr>
<td>- Lymphedema</td>
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</table>
MR of right femur:

Coronal T1 fat sat

Coronal STIR
<table>
<thead>
<tr>
<th>Edema pattern:</th>
<th>Fatty/infiltrative pattern:</th>
<th>Mass lesion pattern:</th>
</tr>
</thead>
<tbody>
<tr>
<td>Acute muscle injury</td>
<td>Chronic muscle insult</td>
<td>Space occupying lesion</td>
</tr>
<tr>
<td>LOW to intermediate T1</td>
<td>Fat signal intensity on both T1 AND T2</td>
<td>Look for air fluid level</td>
</tr>
<tr>
<td>High T2 and STIR signal</td>
<td>Muscle atrophy noted</td>
<td>Increased T1 signal with methemoglobin,</td>
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<tr>
<td></td>
<td></td>
<td>proteinaceous material and fat.</td>
</tr>
<tr>
<td>Seen in:</td>
<td></td>
<td>Enhancement pattern</td>
</tr>
<tr>
<td>Acute Myositis</td>
<td>Chronic disuse</td>
<td>Correlate with underlying condition/ past</td>
</tr>
<tr>
<td>Rhabdomyositis</td>
<td>Denervation</td>
<td>insults.</td>
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<tr>
<td>Vascular insults</td>
<td>Muscular dystrophies</td>
<td></td>
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<tr>
<td>Early denervation</td>
<td>Chronic longstanding muscle trauma</td>
<td></td>
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<tr>
<td>Compartment syndrome</td>
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Now..differentials??

- Leiomyosarcoma
- Rhabdomyosarcoma
- Hematoma
- Myonecrosis
- Focal myositis
- Organized abscess
One more piece of information...

- DIABETES: A1C AT 16.5%
Diabetic Myonecrosis
- First described in 1965 by Angerval et al.
- Uncommon complication of uncontrolled diabetes.

- Unclear pathophysiology:
  ✓ Vasculitis with thrombosis
  ✓ Ischemic reperfusion injury of muscle
  ✓ Diabetic microangiopathy
  ✓ Atherosclerosis
• Patients present with muscle pain and swelling.
• Usually in setting of poorly controlled diabetes
• More in insulin dependent patients
• Rarely may be the first symptom for undiagnosed diabetes
• Responds to rest and NSAIDS. Role of physical therapy controversial
• Recurrences common.
• Review of 126 reported cases by Horton et al.
  - Younger age of onset in Type 1 DM as compared to Type II
  - Mean age: 35.9 years for Type I diabetics
    Mean age: 52.2 years for Type II diabetics
  - 67/126 reported CK; 68.4% normal range
  - ESR in 60/126 reported; 83.3% reported increased
  - CRP: 30 patients only; but 27 reported elevation
- Patient receiving physical therapy had longest time to symptom resolution at a mean 76.5 days vs bed rest at 41.7 days.
- Lowest for patients receiving bed rest + NSAIDs at 28.5 days.
- Recurrence rates lowest for those receiving NSAIDs
- Patients receiving surgery have poorer outcome.
• MRI with gadolinium sensitive and specific enough for diagnosis.
• May precede clinical symptoms by up to 6 months at times.
• Biopsy though definitive, appears to be associated with increased time to recovery.
• If necessary, incisional or needle biopsy preferable.
Back to the patient...

- Improved slowly with NSAID therapy and rest.
- However, as of the last visit, continues to ambulate with a cane.
References:


Questions??
THANK YOU!!