AMSER Case of the Month
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HPI 96-year-old female presenting with severe L hip pain after fall

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Patient Presentation

• **HPI** 96-year-old female presenting with L hip pain after fall from standing height

• **PHM** Anxiety, Insomnia, muscle weakness, and Schizoaffective disorder

• **Physical Exam**
  • Musculoskeletal: Tenderness to L proximal femur, able to range L hip, strength equal, no shortening or deformity or swelling.
  • Neuro: non-focal

• **Labs:** Noncontributory
What Imaging Should We Order?
Select the applicable ACR Appropriateness Criteria

<table>
<thead>
<tr>
<th>Variant 1:</th>
<th>Acute hip pain. Fall or minor trauma. Suspect fracture. Initial imaging.</th>
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</thead>
<tbody>
<tr>
<td>Procedure</td>
<td>Appropriateness Category</td>
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<tr>
<td>Radiography hip</td>
<td>Usually Appropriate</td>
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<tr>
<td>Radiography pelvis</td>
<td>Usually Appropriate</td>
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<tr>
<td>Radiography pelvis and hips</td>
<td>Usually Appropriate</td>
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<tr>
<td>CT pelvis and hips with IV contrast</td>
<td>Usually Not Appropriate</td>
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<tr>
<td>CT pelvis and hips without and with IV contrast</td>
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<tr>
<td>MRI pelvis and affected hip without and with IV contrast</td>
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<tr>
<td>Bone scan hips</td>
<td>Usually Not Appropriate</td>
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<tr>
<td>US hip</td>
<td>Usually Not Appropriate</td>
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</tbody>
</table>

This imaging modality was ordered by the ER physician.
Findings (unlabeled)
Findings (labeled)

Acute comminuted mildly displaced fracture of the left superior pubic ramus

Left inferior pubic ramus fracture

3 intertrochanteric screws

Intramedullary rod

*Bones are diffusely osteopenic
Final Dx:

Acute Fractures of Left Superior and Inferior Pubic Rami
Case Discussion

• In the US pelvic fracture occur in 37 in 100,000 individual per year
  • Incidence is highest in 15-28 age group

• Most Pelvic Fractures are due to trauma
  • MVC (50%)
  • Pedestrian vs. motor vehicle (30%)
  • Fall from height (10%)
  • Motorbike (4%)
  • Other causes include sports injuries and low energy falls

• Pelvic insufficiency fractures due to low energy mechanism are common in the elderly
Case Discussion

• While hip fractures 3 times more common, pelvic fractures are associated with similar mortality
  • Inpatient mortality 7.6%, 1 year mortality 27%

• Pelvic fractures can be complicated by hemorrhage
  • Intrabdominal bleeding occurs in up to 40% of cases
  • Suspect pelvic bleeding in patient with continued instability in the absence of intrabdominal hemorrhage

• 1 year post injury 52% of elderly patients report decreased self sufficiency
Case Discussion – Management

- Main goal of treatment is minimizing time to re-mobilization
  - Prevent further osteopenia, pulmonary infections, and DVT
- Non-operative treatment of pelvic ring fractures consists of three major pillars: Analgesia, mobilization and osteoporotic medication
- Posterior pelvic ring usually can be stabilized using percutaneous SI screws
- Anterior pelvic ring stabilized with ORIF with plate osteosynthesis
References:


