RADY 401 Case Presentation: Colloid Cyst

Rizk Alghorazi Sep 2023
Focused patient history and workup

- Patient is a 62 y.o. male who presented at the ED on 9/4:
  - 1 month: Frequent falls, leg weakness, lightheadedness, back pain, AMS, and fecal incontinence
  - PMHX notable for: intracranial hemorrhage, epilepsy, prior TBI, and dural AV fistula

- Vitals/Physical Exam:
  - Neuro: “Bilateral and equally reactive pupils, intact extraocular movements though with saccadic movements. Absence of nystagmus. Normal facial symmetry with intact eyebrow raise. Intact sensation to light touch in all 3 distributions of the trigeminal nerve bilaterally. Grossly intact hearing, normal speech, symmetric uvular palatal elevation, and normal strength of the trapezius. Strength examination of the proximal and distal muscle groups of the upper extremity is normal. Strength is also intact in proximal and distal lower extremity, with 5/5 leg strength bilaterally upon leg lift, dorsiflexion and plantarflexion. Sensation to light touch equal and present in the upper and lower extremities bilaterally, with intact sensation up to inner thigh. Cerebellar testing showed deficits in right finger-to-nose testing. Unable to assess left due to patient pain in right arm. Gait deferred due to perception of instability.”
  - Skin: “Skin is warm, dry and intact. Mild erythema along thoracic/lumbar spine with point tenderness.”
Differential

- New intracranial hemorrhage
- Stroke
- Spinal cord compression (history of incontinence)
- Tumor
- Drug toxicity
- Cauda Equina Syndrome
- Infectious process
List of imaging studies

- Head CT w/o contrast $1,248
- Cervical spine CT w/o contrast $1,248
  - No fracture
- MRI W and w/o contrast $2,868
- Thoracic CT w/o contrast $1,286
  - No fracture
- Lumbar CT w/o contrast $1,447
  - No fracture

Total ~$8,097 ~8 mSV
CT w/o contrast

Well-delineated hyperdense mass on non-contrast CT

Septum pellucidum

Lateral Ventricle

Unilocular, in the third ventricle

Third Ventricle

Thalamus

Axial

Coronal
MRI

Axial T2 TRIM w/o contrast

- Septum pellucidum
- Hyperintensity
- Lateral Ventricle
- Third Ventricle
- Thalamus

Axial T1 with contrast
Patient treatment or outcome

• Incidental finding
  • ~ 8.8 mm colloid cyst
  • No further treatment

• Patient Dx: UTI
  • Tx: Discharge with antibiotics for the treatment UTI
  • Tx: AED toxicity, Neuro follow-up
General: Was imaging appropriate?

**Variant 1:** Acute ataxia following recent head trauma. Initial imaging.

<table>
<thead>
<tr>
<th>Procedure</th>
<th>Appropriateness Category</th>
<th>Relative Radiation Level</th>
</tr>
</thead>
<tbody>
<tr>
<td>CT head without IV contrast</td>
<td>Usually Appropriate</td>
<td>★★★★</td>
</tr>
<tr>
<td>CT temporal bone without IV contrast</td>
<td>May Be Appropriate</td>
<td>★★★</td>
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<tr>
<td>CTA head and neck with IV contrast</td>
<td>May Be Appropriate</td>
<td>★★★</td>
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<tr>
<td>CTV head with IV contrast</td>
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<tr>
<td>MRA head and neck without IV contrast</td>
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<td>MRI head without IV contrast</td>
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<tr>
<td>MRV head without IV contrast</td>
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<td>★</td>
</tr>
<tr>
<td>MRA head and neck without and with IV contrast</td>
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<td>MRI head without and with IV contrast</td>
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<td>MRV head with IV contrast</td>
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<tr>
<td>Radiography skull</td>
<td>Usually Not Appropriate</td>
<td>★</td>
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**Variant 4:** Persistent or worsening mental status change despite clinical management of the suspected underlying cause (intoxication, medication-related, hypoglycemia, sepsis, etc) or acute change in mental status of unknown cause. Initial imaging.

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<td>CT head with IV contrast</td>
<td>Usually Not Appropriate</td>
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**Variant 9:** Age greater than or equal to 16 years. Blunt trauma meeting criteria for thoracic and lumbar imaging. Initial imaging.

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<td>CT thoracic and lumbar spine without IV contrast</td>
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<td>★★★★</td>
</tr>
<tr>
<td>Radiography thoracic and lumbar spine</td>
<td>May Be Appropriate</td>
<td>★★★</td>
</tr>
<tr>
<td>CT myelography thoracic and lumbar spine</td>
<td>Usually Not Appropriate</td>
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*Falls are considered blunt trauma in elderly*
Classical colloid cyst

- Most are found incidentally
- 2% of primary brain tumors
- Contain mucin, old blood, cholesterol thus could lead to a wide range of imaging appearances.
  - Typically hyperdense on CT
- They gradually increase in size
  - From mm to 4 cm
Management of colloid cyst

- Once hydrocephalus is ruled out

If:
- Under 10 mm and w/o hydrocephalus
  - Then follow-up and characterization
- Larger than 10 mm
  - Then surgical aspiration or resection recommended
Potential complication of colloid cysts

• Obstructive hydrocephalus
  • Headache, vomiting, AMS, visual changes, poor coordination, and/or loss of bladder control
Isointense colloid cyst on CT

Axial non-contrast CT  Axial T2  Axial T2-FLAIR  Axial T1
UNC Top Three

• Older patient with numerus falls (blunt trauma) and AMS
  • Initial work-up includes CT without contrast
  • Consider CT thoracic and lumbar

• Colloid cyst are typically benign
  • Greater than 10 mm, consider resection

• If enlarged ventricles are present, but mass not evident
  • Obtain MRI
References


