Case Study Gr.3

Epidural Hematoma
HN 10884-57

Case : 29-year-old Cambodian male, Hometown: Pathumtani  occupation : employee
U/D : Unknown

Chief complaint :
He was assaulted 6 hours ago.
History:

11 hrs PTA he got drunk

6 hrs PTA he was assaulted by punching at both eyes, hitting and slashing 2 times at head then passed out for a while
Physical Examination:

- GA: Cambodian male, good consciousness with agitation
- V/S: BP 130/80 mmHg, Pulse 100 bpm, RR 22
- BT 37.5°C
- O₂Sat 95%
- Positive laceration wound at scalp with suture at head
Physical Examination:

- E₄M₅V₆
- No weakness and sensory loss at both extremities
- Not seizure
Laceration wound of midline head Ø5cm

Laceration at Lt. Parietal Ø3cm

Contusion Ø1x1cm

Contusion Ø2x2cm

Abrasion wound Ø1x2cm

Laceration wound 1.5cm

Laceration wound 3cm
Problem List

Head Injury with alternation of conscious
Differential diagnosis

1. Head Injury

2. Intracranial hemorrhage/Hematoma
   - Epidural Hematoma
   - Subdural Hematoma
   - Subarachnoid Hemorrhage
   - Intracerebral Hematoma
Provisional diagnosis

Head injury with moderate risk
## Lab Investigation

### Electrolyte

<table>
<thead>
<tr>
<th>Electrolyte</th>
<th>Value</th>
<th>Reference Range</th>
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<tbody>
<tr>
<td>Na</td>
<td>146.0 mmol/L</td>
<td>(136.0-145.0)</td>
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<tr>
<td>K</td>
<td>3.44 mmol/L</td>
<td>(3.50-5.10)</td>
</tr>
<tr>
<td>anion gap</td>
<td>22.84</td>
<td>(8.00-20.00)</td>
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### CBC

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Value</th>
<th>Reference Range</th>
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<tbody>
<tr>
<td>White Cell Count</td>
<td>16.10x10³/mm³</td>
<td>(4.0-10.0)</td>
</tr>
<tr>
<td>Neutrophil</td>
<td>89.7%</td>
<td>(40.0-72.0)</td>
</tr>
<tr>
<td>Lymphocyte</td>
<td>5.7 %</td>
<td>(18.0-49)</td>
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<tr>
<td>Hct</td>
<td>40.7%</td>
<td>M(39.0-52.0)</td>
</tr>
</tbody>
</table>
Head Injury

GCS >13 with physical evidence of trauma above clavicle

CT SCAN

Craniocerebral trauma
Craniocerebral trauma

Intra-axial lesion
- Cerebral Contusions/
  Intraparenchymal hemorrhage/
  Intracranial hemorrhage/
  Cortical Cerebral Contusion
- Diffuse axonal Injury
- Intraventricular hemorrhage

Extra-axial lesion
- Epidural Space
- Subdural Space
- Subarachnoid space
Intra-axial lesion

Cerebral Contusions / Intraparenchymal hemorrhage/ Intracranial hemorrhage/ Cortical Cerebral Contusion

Diffuse axonal Injury

Intraventricular hemorrhage

http://radiopaedia.org/cases/cerebral-haemorrhagic-contusion-2
Intra-axial lesion

- Cerebral Contusions / Intraparenchymal hemorrhage/ Intracranial hemorrhage/ Cortical Cerebral Contusion
- Diffuse axonal Injury
- Intraventricular hemorrhage

Intra-axial lesion

- Cerebral Contusions / Intraparenchymal hemorrhage / Intracranial hemorrhage / Cortical Cerebral Contusion
- Diffuse axonal Injury
- Intraventricular hemorrhage

Extra-axial lesion

- Epidural Space
- Subdural Space
- Subarachnoid space

[http://radiopaedia.org/articles/extradural-haemorrhage]
Extra-axial lesion

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- Subarachnoid space

http://radiopaedia.org/articles/subdural-haemorrhage
Extra-axial lesion

- Epidural Space
- Subdural Space
- Subarachnoid space

http://radiopaedia.org/articles/subdural-haemorrhage
Extra-axial lesion

- Epidural Space
- Subdural Space
- Subarachnoid space

http://radiopaedia.org/articles/subarachnoid-haemorrhage
Approach Film

CT Brain, non contrast

1. lens shaped hyperdensity fluid collection at Left Fronto-Parietal lobe
2. Not cross suture
3. Not cross midline
4. Mass effect
Mass effect

- Midline Shift
- Displacement of Gray-white interface
- Ventricular Compression
- Sulcal effacement
Conclusion

A 29 years old Cambodian, was assaulted.

- Laceration wound at scalp with suture at head.

- CT brain, non contrast, lens shaped hyperdensity fluid collection at Left Fronto-Parietal lobe, not cross suture, not cross midline and mass effect

Dx: epidural hematoma.
Treatment

For Epidural Hematoma

- Craniotomy
- Drain clot
- Repair the artery
Take home message

Craniocerebral trauma

Intra-axial lesion
- Cerebral contusion
- Diffuse axonal injury
- Intraventricular haemorrhage

Extra-axial lesion
- Epidural space
- Subdural space
- Subarachnoid space
Take home message

Epidural hematoma

History - Trauma
Etiology - Laceration of middle meningeal artery
Finding - Lens (biconvex) shape hyperdensity
- Midline shift
- No cross suture
- Mass effect
  -- Ventricular compression
  -- Displacement of grey white interface
Knowledge

**Lucid interval**

- Unconscious after head injury -> Awake -> Slip into coma
- Rapidly developing a life-threatening epidural hematoma
- Seen in cerebral contusion, subdural hematoma, and intracerebral hematoma
- 30%-50% of the patients with hematoma
Group 3