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History of Present Illness

CC: Bleeding from ear

HOPI: 19 year old male presents to the Student Health Center after a fall from his skateboard. He struck the ground with his chin and right side of the face. Not wearing helmet. No alcohol involved. Complains of right sided jaw pain. Denies any LOC, nausea, vomiting, numbness, confusion, focal neuro deficit, neck, back or extremity pain

ROS: Denied blurry vision, loss of consciousness, headache, dizziness, fogginess, nausea, chest pain, abdominal pain.

Past Medical History: None

Past Surgical History: None

Family History: Noncontributory

Physical Examination

Vitals: Stable

General: alert, oriented x 3, in no acute distress

Focused Exam:

HEENT: 2.5cm lac to chin. (+) tenderness over right TMJ, reluctant to open mouth, but could. No loose teeth. Blood in right ear canal from what appears to be an abrasion or step-off in his ear canal. No hemotympany noted on exam. No rhinorrhea. No Battle's sign or raccoon eyes.

Cervical spine: No midline tenderness.

Neuro: A and O x 4. Mentation normal. No focal deficit.

Rest of exam benign.

Test Results



Final Diagnosis

Comminuted fracture of the right mandibular neck with anterior angulation of the mandibular condyle and dislocation of the TMJ. Additionally, there is fracture of the anterior bony wall of the External Auditory Canal. No other acute abnormality noted.

Treatment and Outcomes

Patient had a cervical collar placed and was transported to the Emergency Department.

He had CT head, c-spine and max-face performed.

ENT, Neurosurgery and OMFS were all consulted: No acute surgical interventions needed. Chin laceration repaired.

Patient had arch bars placed as an outpatient by OMFS for mandible fracture

ENT placed an ear wick and prescribed ciprodex otic for EAC fracture.

Discussion

Pathophysiology:

These radiographic findings combined with a chin laceration suggest impact on the chin, with traumatic impaction of the mandibular condyle onto the mandibular fossa of the right temporal bone.

Pearls

- Always be concerned about cervical spine fracture. This patient may have had a hyperextension c-spine injury.

- Hemotympany or bleeding from ear should trigger concern for basilar skull fracture.

- Return to full contact sports after a mandible fracture is 4-6 weeks after the patient has completed fixation course.

Differential Diagnosis

- Mandible Fracture
- Cervical Spine Fracture
- Basilar Skull Fracture
- Ear Canal trauma, including foreign body
- TM rupture
- External Auditory Canal Fracture
- Intracranial hemorrhage

References

- 1) "Fracture of the external auditory canal mimicking basilar skull fracture." Tao KK, Schwartz DT, Rosh A. J Emerg Med. 2012 Feb;42(2):e39-40. doi: 10.1016/j.jemermed.2009.08.006. Epub 2009 Oct 1.
- 2) "External Auditory Canal Fracture Secondary to Mandibular Trauma: Technical Report." V.F.H Chong, Y.F. Fan. Clinical Radiology. Volume 55, Issue 9, September 2000, Pages 714-716.
- 3) "Musculoskeletal and Sports Medicine For The Primary Care Practitioner." 4th Ed. Richard B. Birrer, Francis G. O'Connor, Shawn F. Kane.
- 4) <http://www.nhs.uk/Conditions/Head-injury-severe/Pages/Treatment.aspx>