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Atypical Presentation of an Orbital Floor Blow-out Fracture: Clinical Diagnosis and Management

This case highlights a unique presentation of an orbital floor blow-out fracture without typical ophthalmic signs. Primary eye care providers play a critical role in the proper diagnosis, management, and referral if indicated.

I. Case History

- 76 yo WM complains of periorbital bruising and minimal soreness of the left eye following trauma to the left side of the face due to a fall 8 days prior to office visit. Patient reports history of post-traumatic diplopia which had improved significantly since event and is now asymptomatic at visit.
- Ocular hx: cataract surgery 2012 OU
- Medical hx: hypertension, seasonal allergies
- Meds: Aspirin, enalapril/hydrochlorothiazide, ezetimibe/simvastatin
  - Allergic to penicillin

II. Pertinent findings

- Clinical findings:
  - BCVA 20/20- OD, 20/20- OS
  - Pupils and CVF normal, EOMS full range of motion both eyes without restrictions, pain, or diplopia
  - Exophthalmometry: 16.5 mm OD and OS (-)-enophthalmos
  - Biomicroscopy unremarkable OD
  - Biomicroscopy significant inferior and superior lid ecchymosis OS with no associated soft tissue edema noted
    - (-)-hyphema
    - (-)-cell/flare
    - IOPs 17/14
- Physical: Patient denied infraorbital hypoesthesia or pain upon palpation of the orbital rim; no orbital crepitus was noted
- CT scan: Left inferior orbital blow-out fracture without extraocular muscle entrapment

III. Differential diagnosis

- Orbital blow-out fracture
- Orbital edema and hemorrhage without fracture
- Cranial nerve palsy

IV. Diagnosis and discussion

- Orbital floor blow-out fracture clinical presentation
  - Restriction of EOMS
    - Diplopia, especially in up-gaze
- Infraorbital hypoesthesia
- Orbital tissue edema and ecchymosis
- Enophthalmos
- Orbital crepitus

- Importance of ordering necessary testing/imaging
  - CT scan: axial and coronal
  - X-ray
- Ocular complications and surgical candidacy

V. Treatment, management

- Initial management options for orbital floor blow-out fractures
  - Broad spectrum oral antibiotic
  - Nasal decongestants
  - Oral steroids
  - Cold compresses/ice packs to injury site
- Indications for immediate surgical repair
  - Surgical referral was not indicated in this specific case. Currently monitoring patient for worsening of diplopia, enophthalmos, and/or increase in ocular pain
- Follow-up and indications for delayed surgical repair
- Sequelae/Complications

VI. Conclusion

- Clinical pearls of orbital floor blow-out fracture
  - History
  - Presenting signs and severity of patient symptoms
  - Detailed ocular/clinical examination
  - Ordering relevant testing/radiological imaging
  - Seeking consultation with other medical professionals when necessary (e.g. radiology, ENT, oculoplastics)
- Bibliography/Resources