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Facial Fracture Induced Periorbital Emphysema

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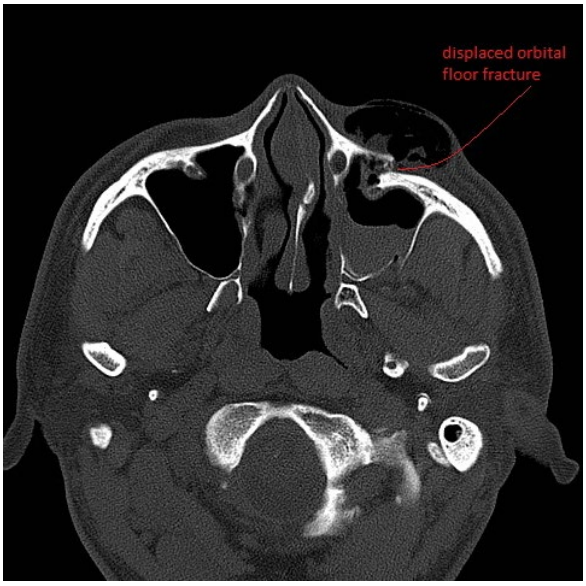

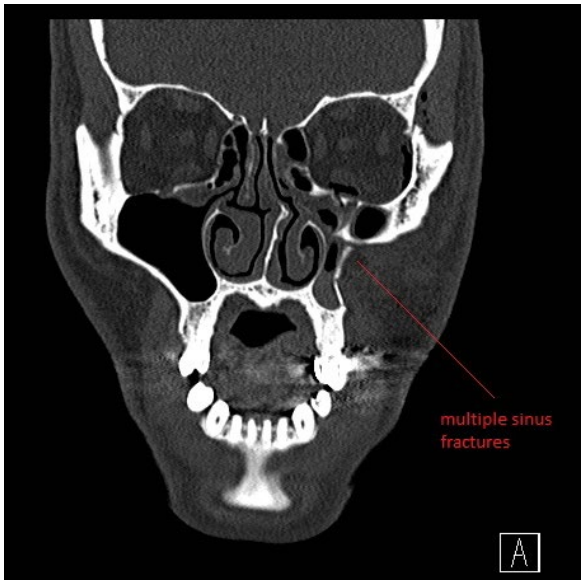

History of present illness: The patient is a 56-year-old male who presents with facial swelling after falling 3-4 feet from a ladder, landing on his face. He had with no immediate swelling, but reports significant facial and eyelid swelling immediately after blowing his nose. He denies any significant swelling to his eyelids. Denies changes in vision or significant eye pain.

Significant findings: Physical exam showed marked left palpebral subcutaneous crepitus, as well as bulbar and palpebral conjunctival bulging. Visual acuity was normal with intact extraocular movements, and normal pupillary exam. Computed tomography (CT) imaging of the face was obtained and revealed multiple displaced fractures involving the left orbital floor and zygomatic arch associated with moderate periorbital and postseptal extraconal gas, resulting in orbital proptosis.

Discussion: Zygomatic arch and orbital floor are amongst the most common facial fractures.[1] Facial traumatic subcutaneous emphysema (TSE) is a well-documented complication,[2-4] as is delayed occurrence of periorbital emphysema due to coughing, sneezing, and blowing nose.[5-7] TSE has been an identified sequela in about 7% of all paranasal sinus fractures,[4] and about 50% of all orbital wall fractures.[8] The majority of these cases resolve spontaneously within 2 weeks and are typically managed non-operatively.[4]

Though complications are extremely rare, tension orbital emphysema leading to vision loss can occur. This is commonly due to directly elevating the intraocular pressure or the sinus fracture causing a one-way valve that increases periorbital pressure, with subsequently optic nerve or optic artery compromise.[9-13] In these cases, prompt needle decompression and high-dose oral steroid may be indicated.[9-11] Because the conjunctiva forms a continuous barrier, periorbital emphysema can manifest in global and palpebral conjunctival emphysema. This may ultimately lead to exposure keratopathy and subsequent inability to close the eyelids.[16,17]

It is recommended that patients with sinus or periorbital fractures should refrain from coughing, blowing nose, or forceful Valsalva and be prescribed antitussive medication and stool softeners.[6,18]

Topics: Facial fracture, ENT, ear nose and throat, trauma, ophthalmology.

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