

Eyelid Swelling and Lucency in the Skull Radiograph

What would you think of if you see a pathologic collection of air as lucency at the superior aspect of the orbital globe in the AP skull radiograph?

- a) Periorbital abscess
- b) Orbital emphysema
- c) Orbital cellulites
- d) Periorbital foreign body
- e) Periorbital lymphaticovenous malformation

A 9-year-old boy presented to the emergency department (ED) with crepitant swelling of the right upper eyelid. He was playing with his brother who accidentally hit him on the right side of the face with his hand. The boy developed epistaxis immediately after the injury. He was admitted to our ED after 24 hours. The initial ophthalmic external examination revealed crepitant ptotic right upper eyelid swelling. Visual acuity was bilateral normal. Hyphema and diplopia was not detected.

Orbital emphysema commonly occurs during or immediately after facial, nasal, orbital trauma or surgical procedures, and most often after nose blowing. However, orbital emphysema has been caused by sneezing without evidence of any significant trauma.¹ The lateral wall of the ethmoid sinus named “lamina papyracea” is especially thin and fragile like “papyrus”. This is why the bone is named “papyracea”. Due to structural weakness, the bone becomes prone to fractures and this leads to orbital emphysema.

Orbital computed tomography of our patient revealed a small, depressed fracture of the right lateral wall of the ethmoid bone. Plain radiographs may be helpful in confirming fractures, orbital emphysema and in the delineation of air-fluid levels in the paranasal sinuses, but they may fail to show the existence and extent of fractures (Fig. 1).

Orbital emphysema is generally a benign, transient phenomenon, and spontaneous resolution usually occurs in around 2 weeks.¹ However, the intraorbital air mass may cause visual loss due to the central retinal artery occlusion.² As such, the rapid diagnosis and management of this condition are essential.

In most cases, careful observation and the recommendation to avoid nose blowing are the only treatment necessary for orbital emphysema. According to the severity of the condition, the use of nasal decongestants, antibiotics, air drainage, direct decompression and steroids have been used for treatment.³

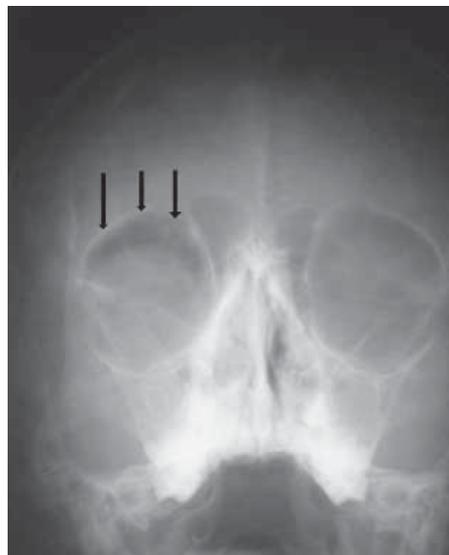


Fig. 1. AP skull radiograph revealed pathologic collection of air as a lucency at the superior aspect of the orbital globe (arrows).

REFERENCES

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