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Blown Out: Nose Blow Meets Orbit

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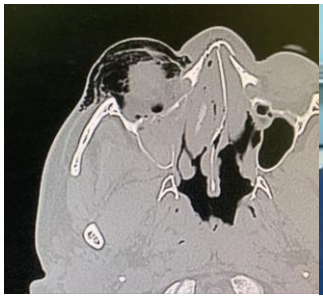
INTRODUCTION

Orbital emphysema results from an abnormal accumulation of air within the orbit or eyelid due to a newly created sino-orbital communication.
This case report describes a rare instance of traumatic orbital emphysema triggered by nose blowing in a patient who sustained facial trauma in a motor vehicle accident.

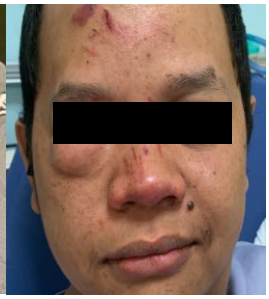
CASE DESCRIPTION

A 33-year-old Malay male presented to the emergency department three hours after a motor vehicle accident. He had lost control of his motorcycle and fell face-first onto the ground. Post-accident, he developed bilateral epistaxis and a left nasal congestion. In an attempt to relieve the congestion, he forcefully blew his nose, which resulted in sudden right periorbital swelling. The epistaxis resolved upon arrival to the ED.

On examination, there was right infraorbital swelling with crepitus and a tender nasal septum. There was no diplopia or ophthalmoplegia, and the left orbital was normal. CT scan revealed a small punctate hemorrhage in the frontal lobe, minimal pneumocranium, and haemosinus in the right maxillary and ethmoid sinuses. Fractures were identified in the bilateral lamina papyracea, right maxillary sinus walls, orbital floor, and nasal structures. Air pockets were noted in the right medial extraconal space and periorbital soft tissue. No extraocular muscle entrapment was present. The patient was admitted for 24-hour observation. At a one-week follow up, the right periorbital swelling has resolved without sequalae, and the facial fractures were managed conservatively.



CT scan showing the periorbital air pockets and extensive facial fractures.



Picture of the patient with right infraorbital swelling.

DISCUSSION

Traumatic orbital emphysema is commonly associated with fractures of the orbital floor or sinuses. A less common cause is forceful nose blowing, which increases intranasal pressure, forcing air into the orbit and causing swelling. Damaged orbital tissues, particularly disrupted fatty tissue can block the air from exiting the orbit, acting as a one-way-valve. Clinically, orbital emphysema has a high specificity of 99.6% and a positive predictive value of 98.4% for an orbital fracture.

CONCLUSION

Orbital emphysema is a rare complication of facial fractures. The contribution of forceful nose blowing to its development has only been documented in a few cases. Early recognition and management are crucial to preventing complications, such as orbital infections and optic nerve compression.

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