

# Orbital emphysema after sneezing revealing a blowout fracture

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## Introduction

Subcutaneous orbital emphysema is a rare condition that may occur after a direct or indirect sinus trauma. Air can enter the orbital cavity as a result of hyper pressure due to nose blowing, coughing, or after trauma. Different therapeutic options exist for the management of orbital emphysema secondary to trauma.

## Aims

We report an original case of a blowout fracture in an adult male who developed a pronounced emphysema after violent nose blowing

## Case report

A 43-year-old man

Symptoms : a painless, progressively increasing periorbital swelling of the left eye **after nose blowing**.

No significant past medical history, except **a facial blunt trauma one week** prior to the presentation.

Physical examination: crepitant eyelid swelling and mild unilateral left exophthalmos (Figure 1).

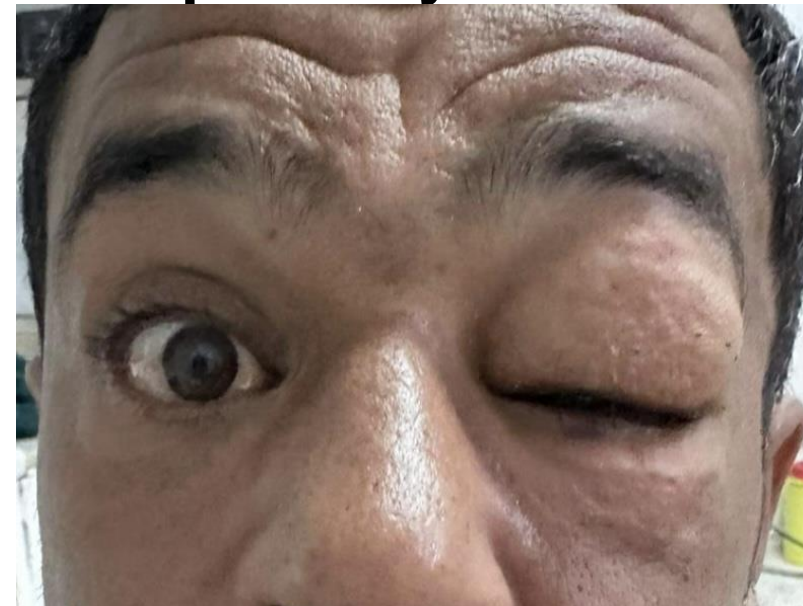


Figure 1: Left orbital swelling

**Ophthalmological examination** : Visual acuity and optic nerve function tests were normal .

CT scan : revealed orbital subcutaneous and subconjunctival **emphysema** and **fracture** of the **medial orbital wall** of the left eye, with orbital fat herniation (Figure 2).

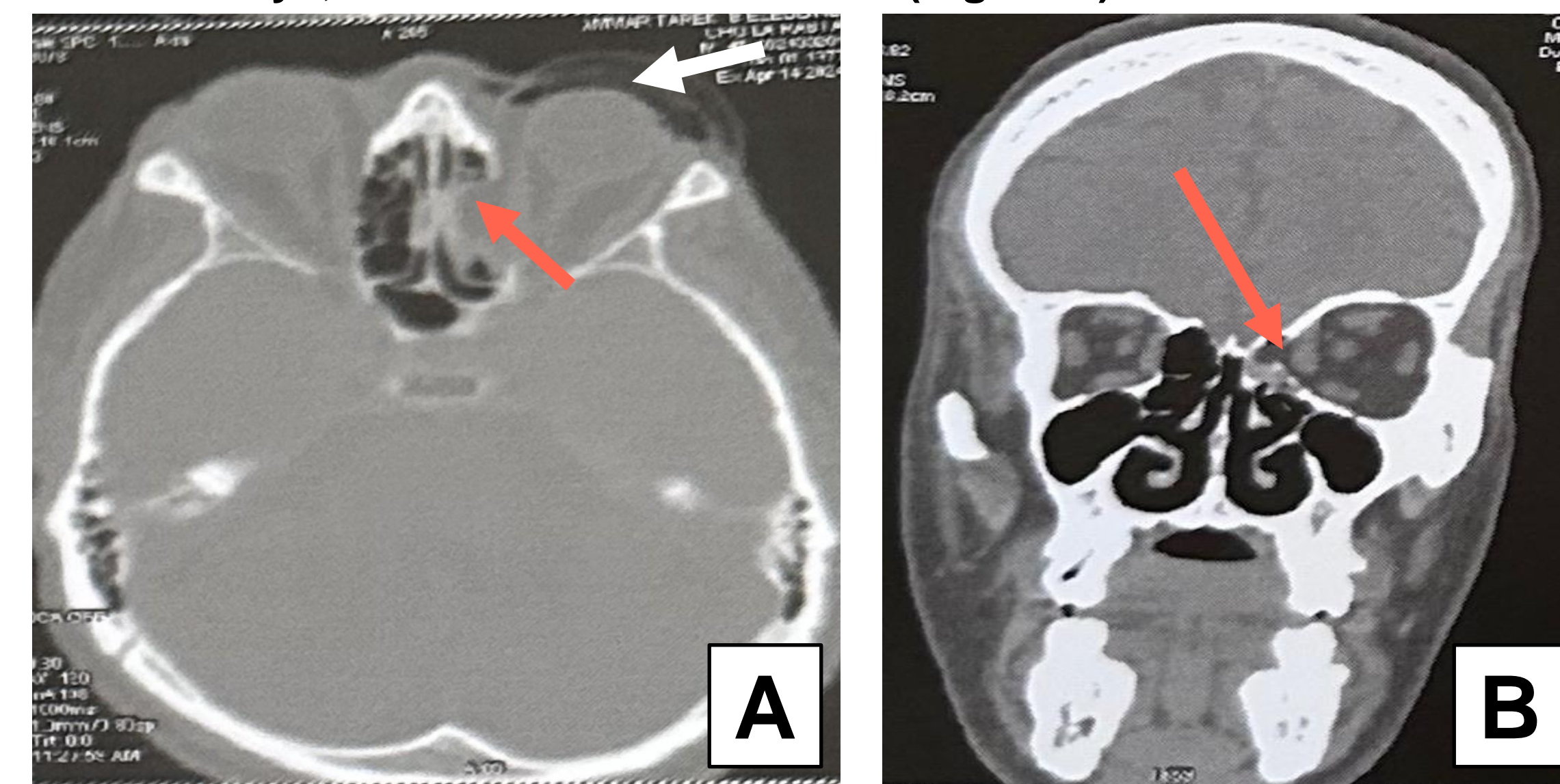


Figure 2: **A: Axial CT scan** showing a blow-out fracture is seen on the medial wall of left orbit (red arrow) with air inside the soft tissue areas (white arrow)  
**B: Coronal CT scan** showing orbital fat herniation

Because of the small size of the defect +absence of ophtalmological complications, a wait and see attitude was adopted . ➡ Emphysema spontaneously resolved within 5 days (Figure 3).



Figure 3: Decrease of oedema

## Discussion

\*Orbital emphysema occurs via a **communication** between the ethmoid air cells and the orbital cavity, when the force generated by blunt trauma exceeds the tolerance of the bony surfaces that separate the nose from the orbit.

\*Emphysema may occur **secondary to sneezing** in patients who have **a history of periorbital trauma or sinus surgery**, but it is rare in patients without such history.

\*The orbital medial wall and floor are prone to fracture.

\***Conservative management** is generally adopted.

There is no consensus on antibiotic prophylaxis or the use of nasal decongestants.

\***Surgical repair of orbital fractures** within two weeks is indicated in patients with vision loss, diplopia and CT scan evidence of entrapped muscle or periorbital tissue, large fractures (>50% of the wall), and enophthalmos that does not resolve.

\***Surgical treatment** of orbital emphysema includes lateral canthotomy or cantolysis, orbital decompression with needle aspiration, and bone decompression with eventually orbital reconstruction.

\* The fracture site is expected to heal within 2 weeks.

## Conclusion

Orbital emphysema should be considered as a differential diagnosis for periorbital swelling. Preceding trauma must be looked for. In case of blowout fracture. Ophtalmological complications are the indication for emergent surgery.

## Références

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Written consent was obtained from patient before publication