



## Subconjunctival emphysema of the left eye after a post traumatic pneumothorax

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### ABSTRACT

*The subconjunctival emphysema is a rare condition usually occurring after orbital trauma. We report a case of such a lesion following a chest trauma and pneumothorax without orbital fracture and discuss the most likely mechanism involved.*

**Key words:** subconjunctival, emphysema, pneumothorax.

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### INTRODUCTION

The traumatic subconjunctival emphysema without fracture of the orbital wall is exceptional. We report one case occurred after a chest trauma with a bilateral pneumothorax and subcutaneous emphysema.

### MATERIALS AND METHOD

#### Observation:

We report the case of a 62 year-old man with no significant medical history admitted in the emergency unit for a serious trauma after a road accident. At the admission, the patient was agitated with a blood pressure at 140/90 mmHg, a heart rate at 130/mn and a SpO<sub>2</sub> at 79% without oxygen. The examination showed an extensive subcutaneous emphysema interesting the chest wall, the cervical region and the face with a left eye conjunctival abruption (Fig1).

After conditioning and respiratory stabilization (SpO<sub>2</sub> at 93% under 15 L/mn of O<sub>2</sub>), a body CT scan was performed showing multiple costal fractures with a bilateral pneumothorax and extensive subcutaneous emphysema with no other lesion. The pneumothorax was drained and an ophthalmological opinion was sought.

Ophthalmological examination showed a left eye subconjunctival emphysema; with no orbital crepitation in favour of air presence. Visual acuity and ocular mobility were normal. The orbital CT scan showed neither a fracture nor an emphysema of the left orbit.

After a few days of drainage, the patient showed a clear clinical improvement with disappearance of the pneumothorax and the subcutaneous and conjunctival emphysema.

## RESULTS AND DISCUSSION

The subconjunctival emphysema has rarely been reported in literature. It usually follows an orbital emphysema by fracture of the internal wall of the orbit, due to the communication with the sinuses. It has also been reported after a direct trauma of the conjunctiva by compressed air without fracture of the orbit [1-2]

According to some authors, the mechanism would be an air dissection from the pleural cavity to the fascias of the chest wall, then to the neck and face. The subconjunctival emphysema can be explained by a communication between the subcutaneous and subconjunctival plans, even if the orbital septum is usually a barrier between these two spaces [ 1, 3,4] .

Woolley reported a case of subconjunctival emphysema without orbital involvement and emphasizes that such a lesion-as in our case- can occur after serious subcutaneous emphysema due to the laxity of the conjunctival tissues.

## CONCLUSION

This observation shows that after a serious trauma, a thorough examination must be performed especially after pneumothorax and subcutaneous emphysema. Fortunately for our patient the conjunctival emphysema improved after drainage, but it must always be kept in mind even in the absence of orbital trauma.



**Figure 1:** Conjunctival abruption of the left eye

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