



Unilateral Orbital Emphysema after Nose Blowing

Sümkürme Sonrası Oluşan Tek Taraflı Orbital Amfizem

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ABSTRACT

Orbital emphysema is a rare condition which is described as air entrance to the orbital cavity. The trauma seems to be the most common reason, there are some reports of orbital emphysema without any trauma history. A 45-year old man presented with acute onset right orbital emphysema after nose blowing whom recalled a minor facial trauma one night ago. There was no fracture line seen in the CT scan and we were unable to determine whether the minor facial trauma or the strong nose blowing itself caused the orbital emphysema.

Key Words: Orbital emphysema, orbitofacial trauma, nose blowing

ÖZET

Orbital amfizem, orbitaboşluğunahavagirişiolaraktanımlanan nadir bir durumdur. Travma en yaygın nedeni gibi görünmesine rağmen travma öyküsü olmaksızın orbital amfizem bildirilen bazı olgular vardır. 45 yaşında erkek hasta sümkürme sonrası akut başlangıçlı sağ orbital amfizem ile başvurdu. Bir gece önce hastanın tariflediği minor yüz travması hikayesi mevcut olmasına rağmen BT'de kırık hattı görülmedi. Orbital amfizem sebebinin minor yüz travması mı yoksa güçlü sümkürme mi olduğu belirlenemedi.

AnahtarKelimeler: Orbital amfizem, orbitofasiyel travma, sümkürme

INTRODUCTION

Orbital emphysema is a rare condition which is described as air escape to the orbital cavity¹. Air can enter the orbital cavity as a result of nose blowing, coughing, sneezing or after trauma. Direct or indirect trauma may cause orbital emphysema². Although the trauma seems to be the most common reason, there are some reports of orbital emphysema without any trauma history²⁻⁶. In this study, we report an orbital emphysema after a real strong nose blowing and try to add some comments on the argument of orbital emphysema etiology.

CASE REPORT

A 45-year old man presented with acute onset right orbital emphysema. He had a history of feeling a "pop" in the right eye while strongly blowing his nose. Immediately after nose blowing, his right eye suddenly swelled up. When it was questioned, he recalled a minor facial trauma the night before, but had no significant symptoms and did not seek medical assistance. He had no pain in the eye and no difficulty in vision. Past medical history was unremarkable. He denied any nasal or orbital surgery. Physical examination showed right orbital emphysema, crepitation on the periorbital skin and restricted upper eye movement in the

right eye (Figure 1). On ophthalmologic examination the fundus and the visual acuity were normal. Computed tomography (CT) scan revealed right orbital emphysema (Figure 2,3). There was no sign of any maxillofacial fracture including a lamina papyracea fracture or orbital fracture in the CT

scan. Oral antibiotic and antiinflammatory treatment were given and the the patient was instructed not to blow his nose and not close his mouth while sneezing. The emphysema started to resolve the day after his presentation and completely dissappeared within 5 days (Figure 4).

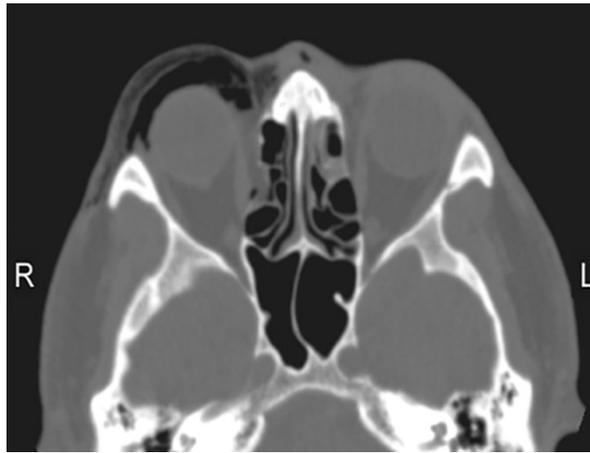


Figure 1. Patient's admission photo shows right periorbital swelling

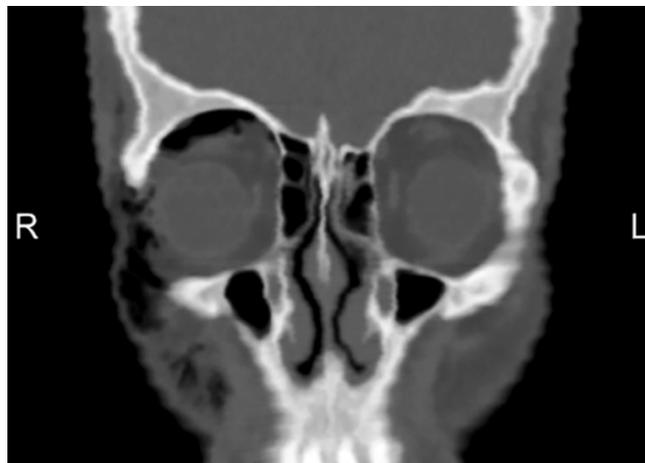


Figure 2. Axial Section CT shows right orbital emphysema without fracture line



Figure 3. Coronal Section CT shows right orbital emphysema without fracture line



Figure 4. Patient's photo after 5 days shows recovery of the right periorbital swelling

DISCUSSION

Orbital emphysema generally occurs after an orbitofacial trauma.³ Direct blunt trauma to the orbit is a common cause of fracture of the lamina papyracea^{2,7}. Increased intraorbital pressure or the smashing force from the trauma allows air entrance from the ethmoid sinuses to the orbit. Increased upper airway pressure, such as cough and nose blowing; postoperative intranasal surgery complication, pulmonary barotraumas, infection and esophageal rupture have also been described in the etiology of orbital emphysema⁸. Emphysema can occur immediately after trauma or it can be delayed until it is precipitated by those factors described above⁹.

Orbital emphysema is a benign, self-limited condition. It usually resolves by the time and generally no treatment is required unless there was associated problems such as visual problems

or severe skull fractures. On the other hand, orbital emphysema may cause mass effect on the soft tissue of the orbit and block retinal and optic nerve vascularization³. Because of this risk, management of orbital emphysema should be meticulous and timely.

In our patient, there was no fracture line seen in the CT scan and we were unable to determine whether the minor facial trauma or the strong nose blowing itself caused the orbital emphysema. In this case, we consider that the minor trauma resulted in an invisible hairline fracture, and then, increased intranasal pressure by vigorous nose blowing caused the orbital emphysema.

We think that conservation treatment is adequate if the orbital emphysema occurred with no symptom and there was no orbitofacial fracture^{1,3,9}. Ice packing and avoiding activity that perform increase nasal pressure could be enough in most

cases. In our patient who had no visual problem and normal CT scan, conservation treatment was enough and he completely recovered within 5 days.

We suggest that some cases in the literature which were described as spontaneous may be due to an insignificant trauma that is missed in the medical history or forgotten by the patient. Hence, we believe this report is of value for physicians who are dealing with orbital traumas or emphysemas.

There were no conflict of any kind for any author, all authors have contributed to and approved this manuscript. This study has not been presented in any meeting and it has not been under consideration in elsewhere.

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