



# Bilateral Isolated Sinopalpebral Fistulas Secondary to Frontal Sinusitis

## Frontal Sinüzite İkincil Bilateral İzole Sinopalpebral Fistül

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### Summary

We aimed to present the clinical characteristics of a patient who had bilateral sinocutaneous fistula as a complication of longstanding frontal sinusitis in this study. A 48-year-old man presented with bilateral sinocutaneous fistula located adjacent to the superior palpebral sulcus on the orbital midline. Ophthalmological and nasal endoscopic examinations were nonspecific. Computerized tomography (CT) demonstrated bilateral mucosal thickening, loss of aeration, and full-thickness bone defect on the infero-anterior part of the right frontal sinus corresponding to the discharging fistulous track. On the left side, symmetrical bone defect was partially closed. Interestingly, the patient had no other systemic symptoms or findings for eight years. In conclusion, frontal sinusitis might lead serious complications, whereas sinocutaneous fistulas might act as secondary drainage pathway that prevents intracranial or orbital complications as in this case. (Turk J Ophthalmol 2015; 45: 84-5)

**Key Words:** Frontal sinusitis, fistula, orbit, complication

### Özet

Bu çalışmada, uzun süreli frontal sinüzitin bir komplikasyonu olarak gelişen bilateral sinokutanöz fistüllü bir hastanın klinik özelliklerinin sunulmasını amaçladık. Kırk sekiz yaşında erkek hasta orbital orta hatta superior palpebral sulkusun hemen yakınında yer alan iki taraflı sinokutanöz fistül ile başvurdu. Oftalmolojik ve nazal endoskopik muayeneler olağandı. Bilgisayarlı tomografide (BT) bilateral mukozal kalınlaşma, havalanma kaybı ve sağda, akıntılı fistül alanına uyan, frontal sinüs alt-ön duvarında tam kat kemik defekti saptandı. Sol tarafta, simetrik kemik defekti kısmen kapalıydı. İlginç olarak, hastanın sekiz yıldır herhangi bir sistemik yakınması veya bulgusu mevcut değildi. Sonuç olarak, frontal sinüzit ciddi komplikasyonlara yol açabilmektedir, ancak bu olgudaki gibi sinokutanöz fistüller ikincil drenaj yolağı şeklinde rol oynayarak intrakranial veya orbital komplikasyonların önüne geçebilirler. (Turk J Ophthalmol 2015; 45: 84-5)

**Anahtar Kelimeler:** Frontal sinüzit, fistül, orbita, komplikasyon

### Introduction

Obstruction of frontonasal drainage causes frontal sinusitis, which is accepted as a serious condition because of its proximity to intracranial and orbital structures.<sup>1</sup> Intracranial complications involve meningitis, brain abscess, and cerebral empyemas, whereas ocular complications comprise preseptal or orbital cellulitis, subperiosteal abscess, and cavernous sinus thrombosis.<sup>1,2</sup>

In this case report, we aimed to present the clinical features of a patient who had bilateral isolated sinocutaneous (eyelid) fistula for eight years, which is a rare complication of frontal sinusitis.

### Case Report

This study was performed in adherence to the tenets of the Declaration of Helsinki. A 48-year-old man presented with bilateral cutaneous fistulas located just above the superior palpebral sulcus on the orbital midline and which have lasted for eight years (Figure 1). The patient had no additional systemic complaints. On initial examination, purulent discharge was observed on the right side, whereas left fistula had no discharge (Figure 1). Ophthalmological examination was normal and there were no signs of periorbital or orbital inflammation. Nasal endoscopic examination and anterior rhinoscopy were

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nonspecific. Plain radiographs and computed tomography (CT) demonstrated bilateral mucosal thickening and loss of aeration, which were more severe on the right frontal sinus (Figure 1). Moreover, CT showed indicative findings of bilateral chronic osteomyelitis and a full-thickness bone defect on the infero-anterior wall of the right frontal sinus adjacent to the superior orbital margin, whereas on the left side, the inferior bone defect was partially closed (Figure 1). Probing of the fistulous tracks revealed bone defect just on the right side, which was seen on CT (Figure 1). Samples were taken from the right frontal sinus for microbiological analysis. *Streptococcus pneumoniae* was isolated from bacterial culture (susceptible to vancomycin, cefotaxime, erythromycin, and clindamycin but resistant to sulfamethoxazole/trimethoprim). The patient was referred to department of ear, nose, and throat for treatment.

## Discussion

Frontal sinuses open into the anterior part of the middle nasal meatus through the frontonasal duct. Blockage of this duct leads to retaining of secretions in the frontal sinus, which serves as a medium for microorganisms.<sup>1,2</sup> Frontal sinusitis has importance because of its anatomic localization and venous drainage pathway. Serious intracranial and orbital complications might be seen.<sup>1,3</sup> Thus, rapid diagnosis and treatment planning are crucial. A detailed patient history, plain radiographs, CT imaging, and microbiological cultures of purulent secretions are sufficient for the diagnosis. Intravenous antibiotics and surgical procedures to maintain drainage of sinus secretions are the most common treatment modalities.<sup>2,4</sup> Orbital complications of frontal sinusitis comprise preseptal or orbital cellulitis, subperiosteal abscess, and cavernous sinus thrombosis. However, isolated involvement of adjacent bony structures and soft tissues could be seen rarely.<sup>2,4</sup> In the current literature, a number of studies reported cases of frontal sinocutaneous fistulas. Marfatia et al.<sup>4</sup> presented a case with anterior wall frontal sinus fistula following forehead trauma. Similarly, Rudloe et al.<sup>5</sup> reported a patient with a frontal sinus fistula through the upper lid secondary to a protruding stainless steel implant.

In this case report, we presented the clinical features of a patient with isolated bilateral sinopalpebral fistulas secondary to frontal sinusitis which have lasted for eight years. Interestingly, the patient had no other symptoms. Absence of intracranial or orbital complications might be due to drainage of secretions through sinocutaneous fistula like a secondary duct. However,



**Figure 1.** Black arrows show orifices of sinopalpebral fistulas (top right). A sterile probe can be seen in right frontal sinus through the fistula tract on plain radiogram (top left). Coronal and axial CT scans demonstrate (bottom right and left, white arrows) bone defect on infero-anterior wall of the right frontal sinus, whereas bone defect was partially closed on the left frontal sinus wall (bottom left, white arrow head)

it should be kept in mind that complications of frontal sinusitis can be life-threatening.

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