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Case report

Inferior Turbinate Osteoma as a Cause of Unilateral Nose Obstruction

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A B S T R A C T

Osteomas are benign, slow growing bone tumors often seen in paranasal sinuses, mostly in the frontal sinus, whereas they are rare in the nasal cavity. Inferior turbinate osteoma is extremely rare and our case is the third reported in the literature to date. Symptoms vary depending on the location, size and spreading and nasal obstruction is the most common symptom. Treatment of osteomas is surgical and is reserved only for rapidly growing osteomas with symptoms of infection or compression. Although endoscopic surgery is preferred modality, external approach with lateral rhinotomy should be considered with larger osteomas especially those that involve the ethmoid labyrinth. In cases like ours, when large osteoma is localized on the inferior nasal turbinate, sublabial incision through the vestibulum is very suitable approach because it provides wide access and good visibility and leaves no visible scar.

Key words: *osteoma, inferior turbinate, nasal obstruction*

Introduction

Osteomas are benign, slow growing bone tumors, usually made of compact bone surrounding spongious bone. They can occur in all bones as single or as multiple lesions, and some reported cases of osteomas in soft tissues[1–4]. Usually it is a solid node, 10–20 mm in diameter, with wide or narrow stem[5,6]. They occur at any age with the highest incidence between the second and the fourth decade, and slight male predominance. Most of them are asymptomatic and are usually discovered incidentally during radiological examinations. Osteomas are often seen in paranasal sinuses, mostly in the frontal sinus whereas they are rare in the nasal cavity, only 0.6%[1–7]. Their occurrence is linked to the development of paranasal cavities. They are extremely rare on turbinates and there were only two cases of inferior turbinate osteoma reported in the literature to date[9–25].

Symptoms of osteomas located in the ethmoid sinus appear earlier due to its small size and quicker spread into the surrounding structures.

The absences of symptoms or nonspecific symptoms are cause of a late diagnosis. Symptoms vary depending on the location, size and spreading. Nasal obstruction is the most common symptom. Headache appears due to pressure and spreading or inflammation of the paranasal sinus caused by the orifice obstruction and disruption of mucocilliar transport. Symptoms of osteomas located in the ethmoid sinus appear earlier due to its constricted size and quicker spread into the surrounding structures[8–12].

Treatment of osteomas is surgical and is reserved only for rapidly growing osteomas with symptoms of infection or compression[1–6].

Case Report

A 50- year-old man was referred to the ENT specialist with 3-month history of progressive left side nasal obstruction resistant to therapy with nasal decongestan and intranasal corticosteroid spray. He had no history of head trauma, facial surgery or allergy and his past medical history was unremarkable. Clinical examination revealed solid and painless circular-shaped tumor of the inferior turbinate, covered with normal mucosa, almost completely obstructing the nasal cavity behind the nasal

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valve. The tumor reclined on the septum and bottom of the nasal cavity, leaving free only a narrow space to the upper portion of the nasal cavity. Examination with a flexible endoscope showed that the tumor was limited only to the inferior turbinate, leaving the rest of the nasal cavity intact. Computed tomography (CT) scan of paranasal sinuses showed a well defined expansive tumor, 19 x 17 mm, in the left inferior turbinate alongside the ventromedial edge of the left maxillary sinus, which had decreased aeration and luminal opacification. Described tumor had the absorption coefficient of bone tissue, and differential diagnosis corresponded to osteoma (Figure 1). Due to the size and hardness of the tumor endoscopic procedure was not feasible therefore we used sublabial approach through the upper mouth vestibule to access to the bottom of the nose and extirpated the tumor which was well separated from the piriformed aperture (Figure 2). Patohistological findings revealed a tumor made of dense mature bone surrounding spongious bone and confirmed the diagnosis of osteoma (Figure 3). Postoperative course was uneventful and the patient was symptom-free.

Fig. 1. Computed tomography (CT) scan of paranasal sinuses showes a well defined expansive tumor, 19 x 17 mm, in the left inferior turbinate alongside the ventromedial edge of the left maxillary sinus.

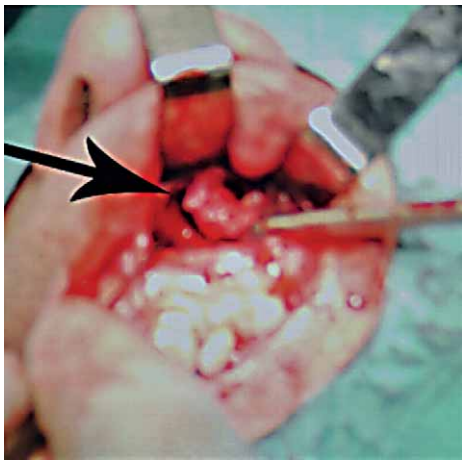

Fig. 2. Sublabial approach through the upper mouth vestibule to access to the bottom of the nose and extirpated the tumor which was well separated from the piriformed aperture.

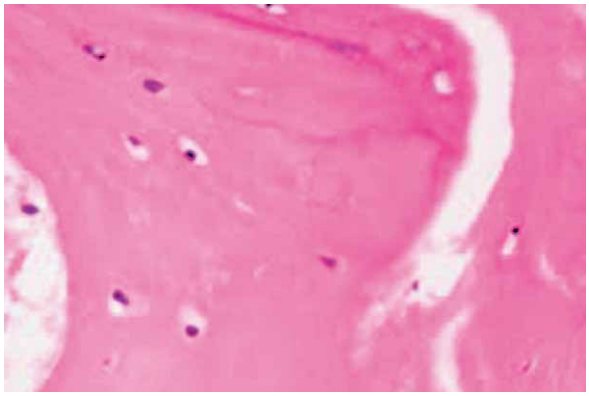

Fig. 3. Patohistological findings revealed a tumor made of dense mature bone.

Discussion

Osteomas are relatively common in the paranasal sinuses. They occur most frequently in the frontal sinus (71.8%), then in the ethmoid (16.9%), the maxillary sinus (6.3%), and the sphenoid 4.9%. They can grow without symptoms for a long time and very often are discovered incidentally during radiological examination for some other condition[1–6]. Incidental detection in normal radiological tests was about 1%, and in CT scans about 3%[5–7]. Although their etiology is unknown, there are three theories: embryological, posttraumatic and infectious. Considering their place of origin osteomas are classified into central, peripheral and extraskeletal, depending if they grow from endosteum, periosteum or from soft tissue, usually muscle[1,5]. In the craniofacial region, rarities such as osteomas situated in the throat and tongue, have been described[14–18].

Nasal turbinates osteomas are extremely rare and only two cases of osteomas localized in the lower, three on the middle, and one on the upper nasal turbinate have been reported in the literature to date[19–26].

In symptomatic osteoma CT scan of paranasal sinuses is necessary in order to determine the extent and size of the tumor, whereas magnetic resonance imaging may be useful in distinguishing inflammatory lesions from a neoplasm[5,6].

Treatment of choice is surgical excision, which is indicated only in symptomatic osteoma. Although endoscopic surgery is preferred modality, external approach with lateral rhinotomy should be considered with larger osteomoas especially those that involve the ethmoid labyrinth[8–13]. In cases like ours, when large osteoma is localized on the inferior nasal turbinate, there is not enough room for endoscopic removal, therefore sublabial incision through the vestibulum is very suitable approach because it provides wide access and good visibility and leaves no visible scar.

Conclusion

Inferior turbinate osteoma is extremely rare and our case is the third reported in the literature to date. Endoscopic surgery is the golden standard in treatment. However, if tumor size prevents endoscopic removal sublabial approach is the choice of treatment because it provides wide access and good visibility and leaves no visible scar.

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OSTEOM DONJE NOSNE ŠKOLJKE KAO UZROK JEDNOSTRANE OPSTRUKCIJE NOSA

SAŽETAK

Osteomi su spororastući dobroćudni koštani tumori koji se često mogu naći u paranazalnim sinusima, najčešće čeonom, dok su vrlo rijetki u nosnim šupljinama. Osteomi donje nosne školjke su izuzetno rijetki i do sada su u literaturi opisana samo dva slučaja. Simptomi ovise o lokalizaciji, veličini i širenju, a najčešća je nosna opstrukcija. Liječenje izbora je kirurška ekscizija koja je indicirana samo kod osteoma koji dovode do razvoja infekcije ili uzrokuju kompresiju okolnih struktura. Kod manjih osteoma je prikladan transnazalni pristup pod kontrolom endoskopa a kod većih osobito kad zahvaćaju etmoidni labirint nužan je vanjski pristup lateralnom rinotomijom. Ukoliko je promjena lokalizirana na donjoj nosnoj školjki i veličinom ne ostavlja prostora za endoskopski pristup kao što je to u našem slučaju, sublabijalni rez kroz vestibulum usta izuzetno je pogodan jer omogućuje dobar pristup i preglednost a ne ostavlja vidljiv ožiljak