

Case Report

Inferior turbinate osteoma: a case report

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ABSTRACT

Osteoma is the most common benign tumor of the paranasal sinuses. Turbinate osteomas are very rare and only five middle turbinate, two inferior turbinate and one superior turbinate osteoma cases have been reported. We present a rare case of osteoma of the left inferior turbinate in a patient presented with unilateral nasal obstruction that was removed endoscopically and conduct a literature review on turbinate osteomas arising from different turbinates.

Keywords: Osteoma, Nasal turbinate, Nasal obstruction

INTRODUCTION

Osteomas are the most common benign tumors of the paranasal sinuses, with an incidence that ranges between 0.43-1%. The osteomas are located mainly in the frontal sinus (37-80%), followed by the ethmoidal sinuses (20%), maxillary sinuses and rarely in the sphenoid sinus.¹

It is very rare for an osteoma to arise in the nasal cavity or turbinates. Only five middle turbinate,²⁻⁶ one superior turbinate⁷ and two inferior turbinate osteoma cases^{8,9} have been reported in the literature to date.

We report an unusual case of inferior turbinate osteoma associated with left-side nasal obstruction and post nasal discharge in a patient managed successfully by Endoscopic Surgery (ES).

CASE REPORT

An 18-year-old male was referred to the department of otorhinolaryngology with a two year history of progressive left nasal obstruction and post nasal discharge. He had no history of facial trauma or nasal

surgery. His past medical history was unremarkable. He had no family history of osteoma or colonic malignancies.

Endoscopic examination revealed a mass completely blocking the left nasal cavity of bony hard consistency. Computed Tomography (CT) scan showed a circumscribed bony mass of the left inferior turbinate with well-defined cortical margins (Figure 1).

Routine laboratory tests were normal. No extension to the skull base was observed.

The osteoma was totally extirpated subsequently without damaging the surrounding structures by ES under general anesthesia. The mass was released gently from its attachment to the inferior turbinate using a sickle knife. It measured 3.8×3.0 cm. Examination of the histologic sections revealed dense, mature, predominantly lamellar bone, consistent with osteoma (Figure 2).

The postoperative course was uneventful. The patient remained symptom free 2 months following surgery.



Figure 1: Computed tomography (CT) scan showed a circumscribed bony mass of the left inferior turbinate.

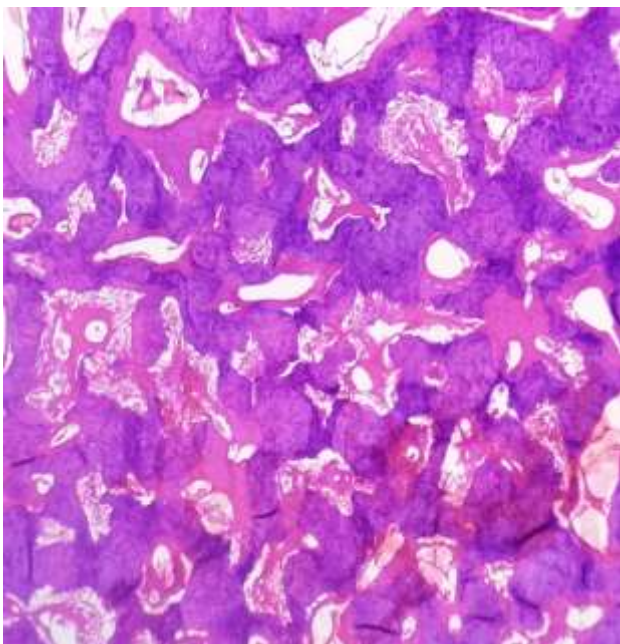


Figure 2: Histologic sections revealing dense, mature, predominantly lamellar bone, consistent with osteoma (H&E, 100x).

DISCUSSION

Osteoma is a benign, slow-growing tumor. While it is a common tumor of paranasal sinuses that is found more frequently in the frontal, maxillary and ethmoidal sinuses,¹ it is very rare in the nasal cavity.

Beside the turbinates, the nasal septum can also be the origin of nasal osteoma.¹ Reported cases of turbinate osteoma in the literature are summarized in Table 1. The

etiology of osteomas arising from the paranasal sinuses can be embryological, traumatic or infective. Osteomas can also be a part of Gardner's syndrome, an autosomal dominant disease characterized by intestinal polyposis, osteomas, cutaneous and soft tissue tumors. In affected individuals, the risk of developing colon cancer approaches 100%. On an average, osteomas are detected 17 years before colon polyps begin to appear.⁶ In turbinate osteomas, no associated history of facial trauma or nasal surgery had been reported, and paranasal sinus infection appears to be the result of sinus meatal obstruction due to mass effect of the tumor.³

Paranasal sinus osteomas may occur at any age, but usually present between the second and fourth decade, with a slight male predominance.³ However, in the eight reported turbinate osteomas cases, seven cases were found in women and only one case in man (Table 1).

The majority of osteomas are asymptomatic in the early stages and are diagnosed incidentally during radiological examination for the other conditions. In symptomatic cases, the most common symptoms are progressive headache and chronic inflammation of the adjacent mucosal membranes.¹⁰ Other symptoms are due to osteoma pressure effect on the adjacent structures. The most common symptom in turbinate osteomas is nasal obstruction. In this case, the patient presented with nasal obstruction and post nasal discharge. The tumor mass was located in the left nasal cavity associated with complete obstruction. The other presenting symptoms of turbinate osteoma are listed in Table 1.

Osteomas can be detected by plain radiograph. However, it does not give detailed information of the lesion and it is not conclusive for surgical intervention. CT scan, though is an effective modality for the evaluation of osteomas, capable of detecting the extent of osteoma and invasion of the adjacent structures, namely the anterior cranial fossa, cribriform plate, and the orbit that may improve surgical decision making.⁷

Surgical approaches are classified into external, endoscopic drill-out, and combined endoscopic and external procedures.¹⁰ Although endoscopic removal is the preferred modality, the open approach should be considered to manage tumor involvement of the cribriform plate and frontal sinus.

In osteomas arising from the turbinates, the tumor is more accessible and endoscopic removal carries less risk, and is easier compared to sinus osteomas. It is therefore important to diagnose nasal osteoma when it is small in size, follow it up and resect it when it is of a size that can be resected successfully by ES, as in the present case. However, long-term follow-up is considered necessary for this young patient, for early identification of any recurrence.

Table 1: Literature review: turbinate osteomas.

Year	Reference	Age	Sex	Tumor location	Presentation
1988	Whittet and Quiney ²	31	F	MT	Nasal obstruction
2000	Katoh et al. ⁴	31	F	MT	NO
2003	Lin et al. ³	73	M	MT	NO, facial pain
2005	Ishimaru ⁷	61	F	ST	Headache
2005	Mesolella et al. ⁸	34	F	IT	NO, nasal discharge
2009	Migirov et al. ⁵	65	F	MT	Headache, NO
2010	Daneshi A et al. ⁶	41	F	MT	NO, epiphora
2010	Viswanatha B ⁹	24	F	IT	NO

MT - Middle turbinate, ST - Superior turbinate, IT - Inferior turbinate, NO - Nasal obstruction

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