

CASE REPORT

Inferior Turbinate Osteoma: A Rare Cause of Nasal Obstruction

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Osteoma of the nose is a rare and benign tumor that develops slowly with an incidence of 0.6% of all benign tumors of the nose.^{1,2} It is the most common benign tumor of the paranasal sinuses and is usually asymptomatic and found only on a coincidental radiographic investigation. Osteoma frequently occurs in the frontal sinus (52%) followed by ethmoid (22.0%), and maxillary sinus (5.1%), most rarely in the sphenoid (1.7%), and in the nose (0.6%).³ Osteomas may occur at any age but usually present in the second-to-fourth decades with a slight male:female preponderance.³ We present an unusual and rare case of patient with an osteoma of the inferior turbinate.

CASE REPORT

A 34-year-old woman presented with a 5-year history of progressive right-sided nasal obstruction associated with a purulent nasal discharge, ipsilateral facial pain, hearing loss, and tinnitus. There was no history of nasal trauma, nasal surgery, or major paranasal sinus infection. Physical examination revealed considerable hypertrophy of the right inferior turbinate, which was bony hard on palpation. The right nasal airway was markedly impaired.

Radiographs of the sinuses disclosed a radio-opaque mass arising from the right lateral nasal wall. Computed axial tomography (CT) study with axial and coronal sections confirmed a bony-dense enlargement of the right inferior turbinate, occluding almost completely the nasal airway (Figs 1A and B).

Audiometric examination showed a right conductive hearing loss (40 to 50 dB), the left ear was normal. Tym-

panometric findings noted type C right tympanogram and normal to left side. Biochemical investigations showed no abnormalities.

The patient was given a general anesthesia with an oral endotracheal tube. In order to provide adequate exposure, a piriform aperture incision extending to the vestibule was performed. A large and obstructing mass typical of bone in both macroscopic appearance and consistency and replacing the right inferior turbinate was found. The mass was removed completely.

Histologic examination after decalcification showed typical benign ivory osteoma. Postoperatively CT scanning showed no residue and obliterating materials. After 2 months audiometric and tympanometric examinations were normal.

DISCUSSION

Osteoma is the most common benign lesion of the paranasal sinuses whereas it is less common in the nasal cavity (3%) after papilloma (45%), angioma (17%), adenoma (14%), fibroma (11%), chondroma (6%), and hemangiopericytoma (4%).² The incidence of osteoma in the nasal cavity recorded in literature is reported in Table 1 and shows that occurrence in the nasal cavity is very rare.

This neoplasm is generally well localized and discrete, usually remains silent for many years, and shows little tendency to recur after excision unless incompletely excised.

Continued growth may completely obstruct the sinus ostia or nasal cavity and lead to the development of frontal

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Figure 1 Axial (A) and coronal (B) CT scan shows right inferior turbinate osteoma.

or fronto-ethmoid mucocoeles. Moreover, delay in diagnosis has been attributed to the fact that these lesions are asymptomatic when they are small. The diagnosis of tumor is often delayed because the clinical index of suspicion for sinonasal tumor is generally low while nasal cavity tumors are rare.

Sinus opacification, air-fluid levels, and bony lesions or bone erosion are well visualized on plain films and may prompt more detailed evaluation. If, however, the physician has a high index of suspicion or the clinical examination confirms presence of a lesion, CT scanning remains the study of choice.

As a general rule, malignant tumors destroy bone whereas benign processes cause thickening or remodeling of adjacent bone, but benign lesions may appear to “destroy

bone” by causing focal compressive deossification. Bone destruction is not pathognomonic of malignancy, but rather implies only that a lesion is locally aggressive. Some benign entities may also appear quite aggressive. Bone destruction sometimes occurs not because the causative lesion is aggressive but, rather, because the bone is inherently incapable of remodeling in response to chronic pressure from an adjacent nonaggressive lesion (osteomas).

A differential diagnosis of nasal osteoma can be formed by consideration of other fibro-osseous. These lesions, which include fibrous osteoma, fibrous dysplasia, and ossifying fibroma, may have a similar radiographic appearance, but their borders are less well-defined than those of osteomas.²

Osteomas often are discovered when they are quite large. Delay in diagnosis has been attributed to the fact that these lesions are asymptomatic or cause nonspecific symptoms when they are small. At an earlier stage, the presence of aspecific nasal symptoms (unilateral epistaxis, obstruction, headaches) should raise the index of suspicion regarding the possibility of a neoplastic process. Unilateral obstruction is the most common presenting symptom of a nasal wall tumor, being noted in 78% to 100% of patients but epistaxis, rhinorrhea, sinusitis, facial pain or pressure, anosmia, frontal headache, epiphora, diplopia may also be present.¹⁻³ One problem is the differentiation between intranasal tumor extension and obstructive sinusitis due to tumor mass. This distinction can be difficult to assess on a CT scan and is better delineated with MR imaging.

In many patients, osteoma exhibits limited growth and may never require intervention. The finding of an osteoma in the presence of symptoms is most generally the situation in which surgical intervention is justifiable.

Preoperative assessment may involve polytomography or axial and coronal CT scanning to indicate the possible site of attachment, and therefore an appropriate surgical approach.

In our case, large osteoma localized to the lower part of the nasal cavity that are inaccessible through the nasal vestibule are best approached through piriform aperture incision extending to the vestibule. The operative procedure caused minimal functional and/or aesthetic deformity and provides excellent exposure of the lower part of the nasal cavity and nasal septum.

Table 1
Osteomas of nasal cavity

Author	Year	Site
Handousa ³	1940	Septum
Samy and Mostafa ¹	1971	Septum
Whittet and Quiney ⁴	1988	Middle turbinate
Chao-Jung Lin et al ⁵	2003	Middle turbinate

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