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Case Report

Fibrous Dysplasia of the Lower Turbinate: A Case Report

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Abstract

Fibrous dysplasia is a rare benign bone disorder characterized by the replacement of normal bone with fibrous tissue, often leading to bone deformities and functional impairment. Fibrous dysplasia of the nasal turbinates is an uncommon presentation, and its management poses challenges due to its impact on nasal airflow and function. Here, we present a case report of fibrous dysplasia involving the lower turbinate in a 30-year-old male patient. We discuss the clinical presentation, radiological findings, histopathological examination, and management approach, highlighting the importance of a detailed approach in the management of the obstruction of nasal cavity.

Keywords: Fibrous dysplasia;

Introduction

Fibrous dysplasia is a rare developmental disorder of bone characterized by the replacement of normal bone with fibrous tissue, leading to bone deformities and functional impairment. Fibrous dysplasia can affect one bone (monostotic form) or multiple bones (polyostotic form). The craniofacial bones are involved in about 10% of subjects with monostotic fibrous dysplasia [1]. It most commonly affects maxilla, mandible, and frontal bone, but involvement of the nasal turbinates is rare. Fibrous dysplasia of the nasal turbinates can present with symptoms such as nasal obstruction, epistaxis, and facial pain, and its diagnosis requires a combination of clinical, radiological, and histopathological evaluation. Management typically involves surgical resection for symptomatic lesions, with the goal of relieving symptoms and preserving nasal function. In this report, we describe a case of fibrous dysplasia involving the lower turbinate in a 30-year-old male patient and discuss its clinical presentation, radiological findings, histopathological examination, and management approach. A few years ago we came across a case of monostotic fibrous dysplasia of the inferior turbinate. As far as we know only a several cases of fibrous dysplasia involving the inferior turbinates have been published.

Case Presentation

A 30-year-old male presented with complaints of progressive left-sided nasal congestion and occasional epistaxis for the past six months. He denied any history of trauma or sinonasal surgery. On physical examination, anterior rhinoscopy revealed enlarged inferior turbinate hard on palpation obstructing the left nasal cavity. Nasal endoscopy confirmed the presence of a smooth, non-tender mass occupying the lower one-half of the left nasal cavity. The contralateral nasal cavity appeared normal, except the nasal septum deformation (Mladina type 5). The patient reported no associated symptoms such as anosmia or facial pain.

Diagnostic Evaluation

Computed tomography (CT) imaging of the paranasal sinuses demonstrated an expansive lesion involving the left inferior turbinate, with ground-glass attenuation and irregular bony trabeculae consistent with fibrous dysplasia (Figure 1, 2). Histopathological examination of a biopsy specimen obtained during nasal endoscopy confirmed the diagnosis of fibrous dysplasia, showing a proliferation of fibrous tissue with irregularly-shaped trabeculae of woven bone.

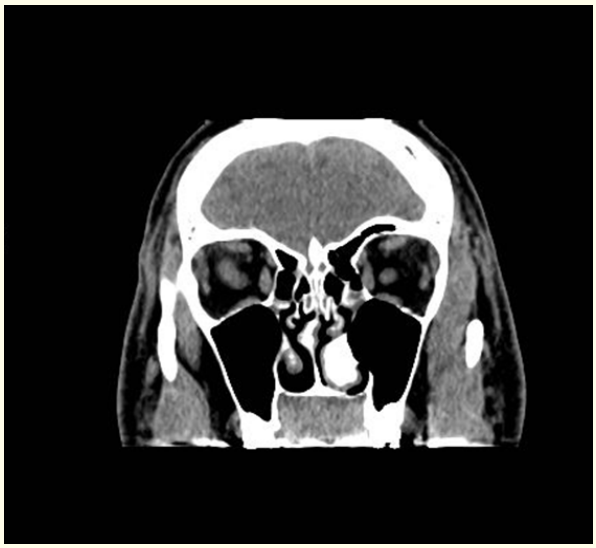

Figure 1

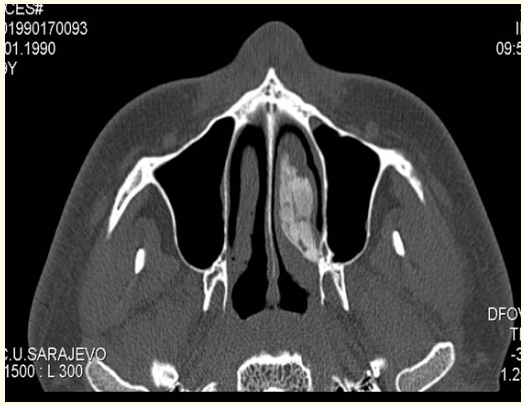

Figure 2

Management

Given the patient's symptomatic nasal obstruction and the radiographic evidence of an expansive lesion, surgical intervention was recommended. Endoscopic resection of the fibrous dysplasia involving the lower turbinate was performed under general anesthesia. Intraoperatively, the lesion was found to be well-circumscribed and easily separable from the surrounding nasal mucosa. Complete excision of the lesion was achieved, preserving the integrity of the adjacent nasal structures. Postoperative histopathological examination confirmed the diagnosis of fibrous dysplasia, with clear margins.

Follow-up

The patient experienced significant improvement in nasal airflow and reported resolution of his symptoms postoperatively. Follow-up nasal endoscopy demonstrated no evidence of residual or recurrent disease. Long-term follow-up will be essential to monitor for disease recurrence and assess nasal function over time.

Discussion

Fibrous dysplasia is a skeletal disorder constituting 7.5% of the benign neoplastic bone lesions [2,3]. Fibrous dysplasia has been shown in the rib of a young Neandertal who lived about 120,000 years ago, in what is now present-day Krapina, Croatia [4]. Fibrous dysplasia of the nasal turbinates is a rare entity that can present with symptoms of nasal obstruction and impaired airflow. Diagnosis is based on clinical suspicion, radiographic imaging, and histopathological examination. Three different CT imaging patterns have been reported in fibrous dysplasia: ground-glass (the most common and characteristic); sclerotic; and lytic [5]. Management of fibrous dysplasia depends on where the lesions are located. Some asymptomatic lesions that do not cause functional problems can be observed [6]. Surgery is recommended when the lesion becomes marked with pain, progressive deformity or interference with functions, to relieve symptoms or to correct aesthetic deformities but usually without curative intent, varying from simple shaving of the bone to more extensive surgery [1]. Treatment typically involves surgical resection for symptomatic lesions, with the goal of relieving nasal obstruction and preserving nasal function. In this patient, since the lesion caused the obstruction of the nasal cavity we chose to make an endoscopic resection Endoscopic techniques offer precise visualization and minimal morbidity, making them the preferred approach for managing fibrous dysplasia involving the nasal cavity.

Conclusion

Fibrous dysplasia of the lower turbinate is a rare benign bone disorder that can present with symptoms of nasal obstruction and impaired airflow. Fibrous dysplasia should not be neglected in the differential diagnosis of unilateral nasal obstruction especially if bony hypertrophy is clearly involved. Prompt diagnosis and appropriate management are essential to alleviate symptoms and preserve nasal function. Endoscopic resection is an effective treatment option for symptomatic lesions, offering excellent outcomes and minimal morbidity. Long-term follow-up is necessary to monitor

for disease recurrence and assess nasal function postoperatively. Further studies are warranted to elucidate the pathogenesis and optimal management strategies for this rare condition.

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