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Monostotic Fibrous Dysplasia of the Middle Turbinate

Orta Türbinatın Monostotik Fibröz Displazisi

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Abstract

A 52-year-old female patient with fibrous dysplasia of the middle turbinate and her radiologic findings were presented. Involvement of the middle turbinate is important, because it may have specific management-related ıssues. In this case report, clinical management and radiological features of the disease were presented.

Introduction

Fibrous dysplasia (FD) is a rare, benign bone tumor. It is characterized by fibroblastic proliferation and progressive filling of mature bone elements with fibrotic tissue (1, 2). Monostotic form of FD (in 70% of cases) occurs in only one bone, such as ribs or proximal portion of the femurs and tibias. Also FD can present in more than one bone (polyostotic form: in 30% of cases). Polyostotic form may be related to McCune-Albright syndrome. The syndrome is associated with endocrine abnormalities (hyperparathyroidism) and cutaneous pigmentation (3). As far as we know, only 4 cases of monostotic FD of the middle turbinates have been reported. Involvement of the middle turbinate is important, because it can predispose to morbidity during endoscopic surgery. Regional anatomy especially involvement of the lateral lamella should be evaluated carefully with preoperative radiologic examinations. This case is the fifth case of FD that only involves the middle turbinate and it's clinical presentation, managment and radiologic features were presented.

Case Presentation

A 52-year-old female patient was examined with imaging modalities for nasal obstruction. She hasn't got any other nasal symptoms. Nasal endoscopic examination revealed a hypertrophic left middle turbinate. No endocrine abnormalities or cutaneous pigmentation were observed. She were evaluated with magnetic resonance imaging (MRI) and computed tomography (CT). MRI revealed a 37x18 mm, expansive mass arising from the left middle turbinate, with a peripheral hyperintense and central hypointensity on T1-weighted (T1W) and T2-weighted (T2W) images. The CT scans showed ground-glass opacity of the left middle turbinate with smooth borders (Figure 1). The radiological features were compatible with FD. The patient underwent an endoscopic middle turbinate subtotal resection. Histological investigation revealed FD. Signed informed consent was taken from the patient for this presentation.

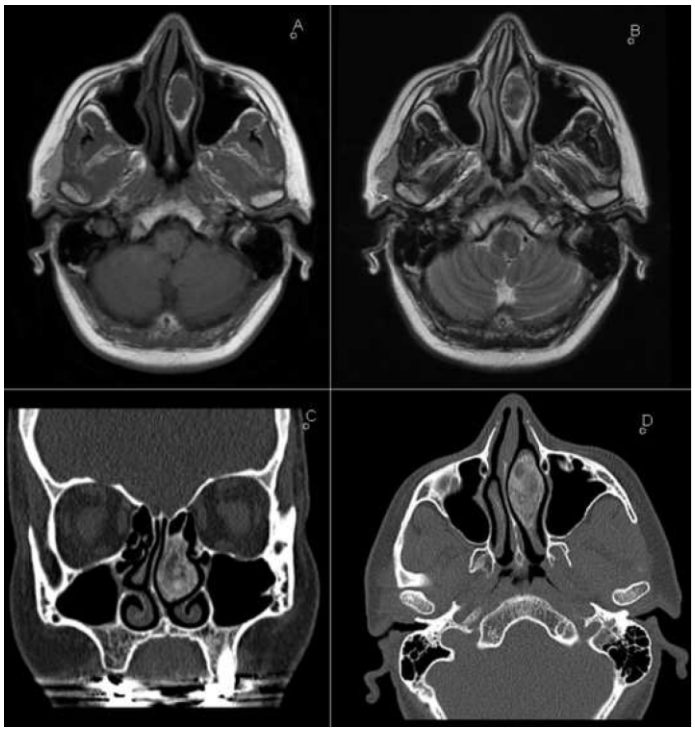

Figure 1: The CT scans showed ground-glass opacity of the left middle turbinate with smooth borders

Discussion

FD is a noninherited, benign bone tumor characterized by the filling of normal bony tissue with fibrous tissue and immature bone. It forms about 7.5% of the benign neoplastic bone lesions (2). It may present 2 different forms: monostotic (70%) and polyostotic (30%) (3). Monostotic form is localized to a single bone like ribs, femur, and tibia. Polyostotic form affects multiple sites and may be rarely complicated by café-au-lait spots and endocrine abnormalities (hyperparathyroidism). Monostotic FD equally affects both genders, however, polyostotic form is more often in females.

Monostotic FD of the middle turbinate is an extremely rare case. There were only 4 cases that have no extension out of the middle turbinate. In the study of Bhat et al., case 2 has involved frontal, zygomatic bones, orbital plates, ethmoid and sphenoid, so this case is a craniofacial form of FD (4). Also in Gozeler's case there was an extending through the skull base (5). This case is the fifth case of FD that only involves the middle turbinate.

It is usually an incidental imaging finding and most patients are asymptomatic. The precise incidence of FD of the nasal cavity is not known but many of them are symptomatic. Clinical signs are nasal obstruction, headache, exophthalmos, diplopia, epistaxis and recurrent rhinit and sinusit. FD may be complicated rarely by malignant degeneration to sarcoma and it occurs in patients who had a history of radiation therapy (1-4).

FD lesions are located intramedullary with expansion of the bone, and well circumscribed. CT scans show ground-glass opacity, although some of the FD lesions can appear almost completely lytic or sclerotic (depending on the degree of mineralization of the tissue). The MRI features may vary, classically showing signal intensity that is intermediate to low on T1W images, intermediate to high on T2W images (3, 4).

In the case of localized and symptomatic FD lesions endoscopic surgery can be an effective option (3, 4). Preoperative imaging information can dictate the surgical approach and extension of the lesion should be evaluated carefully. In this case there were no extension especially to the lateral lamella. Therefore endoscopic middle turbinate subtotal resection was performed safely.

Histologically, FD involves irregular bone trabeculae, similar to Chinese characters, that merge into the surrounding normal bone and lie within a cellular fibrous stroma. (2).

Conclusion

Although it has an exceptional localization of FD at the middle turbinate, FD must be in the differential diagnosis of the craniofacial ossifying lesions. Imaging is a fundamental examination in the correct assessment.

Informed consent

All participants' rights were protected and written informed consent was obtained prior to the procedures according to the Declaration of Helsinki.

Conflict of Interest

The authors have no conflict of interest to declare.

Financial Disclosure

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Özet

Bu vaka sunumunda orta konka fibröz displazisi olan 52 yaşında kadın hastanın radyolojik bulguları sunuldu. Fibröz displazide orta kokanın etkilenimi önemlidir, çünkü yönetimle ilgili belirli sorunları olabilir. Bu olgu sunumunda hastalığın klinik yönetimi ve radyolojik özellikleri sunulmuştur.