Giant concha bullosa: a case report

Dev konka bulloza: Olgu sunumu

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Concha bullosa is a relatively common anatomic variant that is in fact an enlarged pneumatized middle turbinate. We report a case of giant concha bullosa in a 21 year old woman who has a history of nasal obstruction. Anterior nasal examination of the both nasal cavity revealed bilateral nasal masses which covered with normal mucosa. Nasal endoscopy of the both nasal cavity was impossible because of occluding the whole nasal cavities. The computerized tomography (CT) showed that it was a bilateral giant concha bullosa. Under general anesthesia, resection of lateral half of the concha bullosa performed bilaterally by a transnasal endoscop ic technique to achieve nasal airway patency.

Key Words: Burun tıkanıklığı/etiology; burun neoplasms/diagnosis/radiography; tomography, X-Ray computed; turbinates/pathology/radiography.

The middle turbinate somewhat smaller than the inferior turbinate, is a part of the ethmoid bone covered by mucous membrane with ciliated columnar epithelium and overhangs the important middle meatus. There are anatomical variations of middle turbinate which include a “triangular” or “L” shaped middle turbinate, a paradoxically bent middle turbinate, a concha bullosa, and a sagittal groove formation of the inferior aspect of the middle turbinate. A concha bullosa is an aerated turbinate. It is one of the most common anatomic variant of the middle turbinate. It usually occurs bilaterally, but the degree of pneumatization may be variable, not only from patient to patient, but also from one side to the other. In most cases, a concha bullosa contains only a single cell, although occasionally two, and very rarely three cells. The concha bullosa can produce a significant obstruction of the middle meatus, the hiatus semilunaris and the ethmoid infundibulum. Concha bullosa may be so extensive that it can...
come into intimate contact with large areas of the nasal septum and the lateral wall of the middle meatus, predisposing the patient to recurrent headaches, nasal obstruction and sinus infection. This case reports a patient with a bilateral giant concha bullosa occluding the whole nasal cavities.

CASE REPORT

A 21 year-old woman presented with a 1 year history of nasal obstruction. The patient denied recent epistaxis, rhinorrhea, facial trauma, visual changes, fever or weight loss and had no significant medical history. On physical examination there was large, firm, pale, nontender, nonpulsatile swelling occluding the whole two nasal cavities. The lesion was covered with smooth mucosa and it was hard with palpation. Nasal endoscopy of the both nasal cavities. The CT scan showed that it was a bilateral giant concha bullosa (Fig. 1). There were two cells in the concha bullosa of the left side (Fig. 2). Bulging head of the middle turbinates completely fall the space between septum and the lateral nasal wall in CT scan. There were no any mucosal thickening or mucoid secretion within concha bullosa and paranasal sinuses. Under the general anesthesia, resection of lateral half of the concha bullosa performed bilaterally by a transnasal endoscopic technique. The nasal airway was widely patent at the completion of the procedure. Histological examination of the surgical specimen showed the ciliary respiratory epithelium and bone fragments. Postoperatively, the patient has markedly improved nasal respiration.

DISCUSSION

An enlarged pneumatized middle turbinate is a relatively common anatomic variant that is usually referred to as a concha bullosa. Most commonly, it is an incidental finding on CT, but because it is in open communication with the ethmoid sinuses and nasal fossa it may be the site of mucosal inflammatory disease that ranges from simple inflammation to mucocele. The incidence of concha bullosa in patients with sinusitis is reported as 24 to 53.6% by various authors. Bolger et al. classified to the concha bullosa types under three different groups, as lamellar, bulbous and extensive types. Extensive type concha bullosa is pneumatization of both the vertical lamella and the inferior part of middle turbinate. Ünlü et al. showed that of 126 sides with concha bullosa, 21% were bulbous-type concha bullosa, 45% were lamellar-type concha bullosa and 34% were extensive-type concha bullosa. The presence of a concha bullosa alone is not necessarily a pathologic finding. Calhoun et al. and Zinreich et al. report that a major handicap in the assessment of functional or causal importance of concha bullosa in sinus diseases is that the studies reported so far lack the differentiation between a tiny concha bullosa and a

Fig. 1 - Coronal CT showing the pneumatization of the bilateral middle turbinites completely filling the both nasal cavities.

Fig. 2 - Axial CT demonstrating bilateral giant concha bullosa. There are two cells on the left side.
gigantic concha bullosa. However, if combined with other anatomic abnormalities, such as a medially bent uncinate process or an enlarged ethmoidal bulla, even a small concha bullosa may produce a significant narrowing of the anterior and middle portion of the middle meatus. Large contact surface may appear that predispose to repeated and, later, persistent local complaints that may spread to involve the adjacent areas. If the pneumatization is extensive, a large concha bullosa may cause significant problems by its size alone as marked nasal obstruction. Yellin et al.\textsuperscript{7} reported a case of massive concha bullosa masquerading as an intranasal tumor. Ural et al.\textsuperscript{8} reported a giant concha bullosa. The diagnosis of intranasal masses has been greatly facilitated by the development of CT and MRI.\textsuperscript{4} The ideal method of evaluating the paranasal sinuses consist of a nasal endoscopic examination and a CT scan of the sinuses. With the CT scan, the bony rim of the mass is clearly evident. Endoscopic nasal surgery is well indicated for the management of patients with giant concha bullosa. In this case, the mass diagnosed as a concha bullosa with CT scan. It is of interest in this case that despite the size of the middle turbinate and consequent significant degree of secondary osteomeatal obstruction, the patient had no facial or nasofrontal discomfort which one often associates with this clinical condition. Histopathological diagnosis is mandatory to distinguish this lesion from other intranasal obstructive lesions.

REFERENCES