

Mucocele in Concha Bullosa : A Case Report¹

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Mucocele of concha bullosa is rare and can be misdiagnosed as an intranasal tumor mass.

We report a case of mucopyocele of the concha bullosa.

Index words : Paranasal sinuses, CT
Paranasal sinuses, MR
Mucocele

Concha bullosa is an aerated middle turbinate. It has its own mucocilliary transport system that drains into the frontal recess or middle meatus via the sinus lateralilis. Like the other sinus, it may be the site for mucocele.

We report a case of mucopyocele of the concha bullosa.

Case Report

A 19-year old girl visited our hospital with a one-year history of right nasal obstruction, intermittent nasal discharge, and headache. Physical examination showed that a large hard yellowish polypoid mass occupied the right nasal cavity and displaced the septum to the left. Ostiomeatal Unit (OMU) computed tomography (CT) showed an expanded concha bullosa, with a soft tissue mass (Fig. 1A). On T1-weighted image, this showed high signal intensity (Fig. 1B), and low signal intensity on T2WI (Fig. 1C).

Endoscopic sinus surgery was performed. The lateral wall of the concha bullosa was removed, and a thick mucopurulent liquid was drained. This was found to contain staphylococcus epidermidis.

Discussion

The concha bullosa is a common anatomical variant and is found in 34–53% of patients examined by CT for the evaluation of symptomatic sinus disease.

Mucocele is the most common expansile lesion to develop in the paranasal sinuses, and occurs in the frontal (60–65% of cases), ethmoid (20–25%), maxillary (10%), or sphenoid sinus (1–2%). Mucocele of the concha bullosa is rare and can be misdiagnosed as an intranasal tumor. The air cavity in concha bullosa is lined with the same epithelium as the rest of the sinonasal cavity, and this structure can thus be involved with inflammatory disorders that affect the paranasal sinuses. Obstruction of drainage of the concha bullosa leads to mucocele formation.

Unlike MR, CT clearly delineates the bony margin of the concha bullosa. On MR, the signal intensity of mucocele is variable, it is usually low on T1WI and high on T2WI, though when mucous secretion becomes more concentrated and viscous, it changes. Mucoceles can show the following MR signal intensities: low T1 and high T2; intermediate T1, high T2; high T1 and T2; intermediate to high T1, low T2; and low T1 and T2 (9).

References

1. Zinreich SJ. CT of the nasal cavity and paranasal sinuses with emphasis on inflammatory disease. In: Anand VK, Panje WR, eds. *Practical endoscopic sinus surgery*. New York NY: McGraw-Hill, 1992: 42-51

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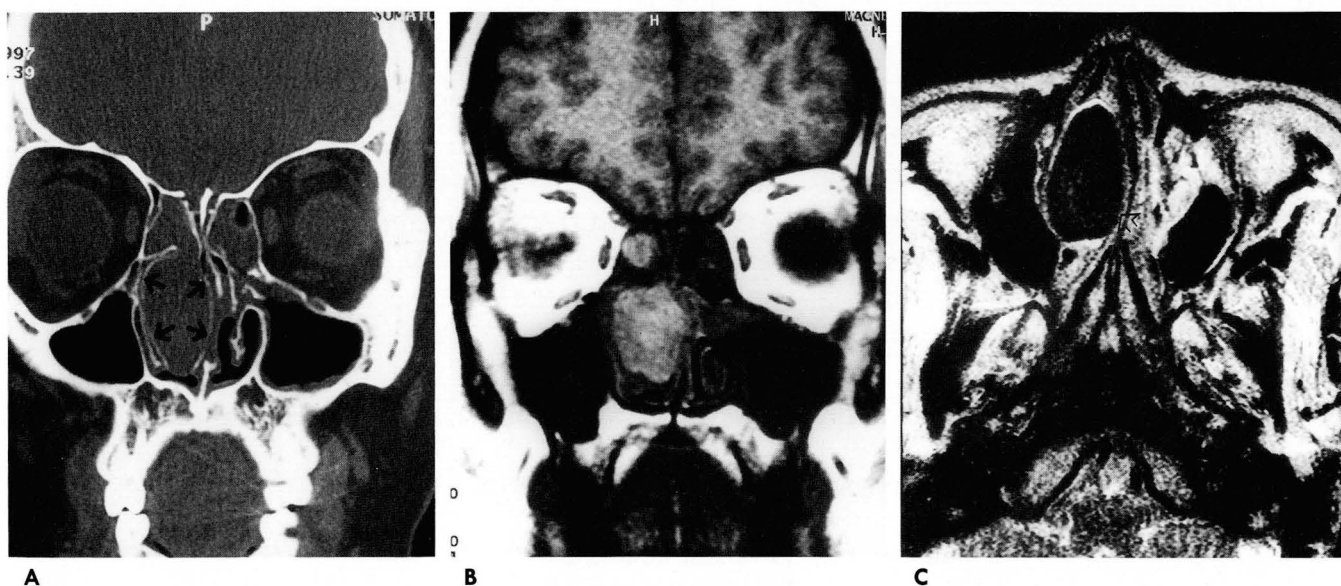


Fig. 1. A. Coronal CT scan of the nasal cavity reveals an oval soft tissue mass with calcific rim (arrows). The nasal septum is displaced to the left side.

B. Coronal T1WI shows high signal intensity in the anterior ethmoid cell and nasal cavity.

C. On axial T2WI, low signal soft tissue mass is noted in the right nasal cavity (open arrow).

2. Zinreich SJ, Mattox DE, Kennedy DW, Chisholm HL, Diffley DM, Rosenbaum AE, Choncha bullosa : CT evaluation. *J Comput Assist Tomogr* 1988 ; 12 : 778-784
3. Nadas S, Duvoisin B, Landry M, Schnyder P. Concha bullosa : frequency and appearances on CT and correlations with sinus disease in 308 patients with chronic sinusitis *Neuroradiology* 1995 ; 37 : 234-237
4. De Juan EE, Green WR, Iliff NT. Allergic periorbital mycopocele in children. *Am J Ophthalmol* 1983 ; 96 : 299-303
5. Finn DG, Hudson NR, Baylin G. Unilateral polyposis and mucocoeles in children. *Laryngoscope* 1981 ; 91 : 1444-1449
6. Zizmor J, Noyek AM. Cysts, benign tumors and malignants tumors

of the paranasal sinuses. *Otolaryngol Clin North Am* 1973 ; 66 : 487-508

7. Rogers JH, Fredrickson JM, Noyek AM. Management of cysts, benign tumors and bony dysplasia of the Maxillary sinus. *Otolaryngol Clin North Am* 1976 ; 9 : 233-247
8. Yellin SA, Weiss MH., O'Malley B, Weingarten K. Massive choncha bullosa masquerading as an intranasal tumor. *Ann Otol Rhinol Laryngol* 1994 ; 103 : 658-659
9. Som PM, Dillon WP, Fullerton GD et al. Chronically obstructed sinonasal secretions : observation on T1, and T2 shortening. *Radiology* 1989 ; 172 : 515-520

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수포성 갑개에 생긴 점액낭종 : 1예 보고¹

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수포성 갑개에 생긴 점액낭종은 매우 드문 질환으로 때때로 비강내에 생긴 종양으로 오인 되기도 한다. 저자들이 알기로는 아직 국내 방사선과 문헌에는 보고된 예가 없다.

저자들은 최근 경험한 1예의 CT 및 MR 소견을 보고하고자 한다.