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Case Report

A case of accessory middle turbinate

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Abstract

Endoscopy is widely recognized as a safe, convenient, and cost efficient tool for examining the nasal cavity and is very useful in observing the anatomic details of the nasal cavity and sinuses. Endoscopic sinus surgery is also of great help in the local and medical therapy of infectious diseases of the paranasal sinuses. However, considerable experience is required for nasal endoscopy to identify significant findings, as there is a wide normal variation in the middle meatal anatomy.

During the study on nasal turbinates, a case with presence of accessory middle turbinate was found. Knowledge regarding its presence is beneficial for the endoscopic surgeons.

Key words [accessory] [middle] [turbinate] [endoscopic] [surgery]

Introduction

The nose is an important face feature. A Chinese fortuneteller regards the nose as a hill of the face generating will power and representing intellectual capabilities. And especially in the present scenario with the advanced modalities of treatment, nasal anatomy with respect to nasal conchae has become very significant for the rhinologists. Considerable experience is required for nasal endoscopist to identify significant findings, as there is a wide normal variation in the middle meatal anatomy [1–3]. The variations in osteomeatal complex are paradoxical curvature of middle turbinate, pneumatized middle turbinate, uncinate hyperplasia, deviation of uncinate process, large ethmoidal bulla, large agger nasi etc. These variations may be one of the causes of chronic sinusitis [4]. These findings are very important while performing ESS. The present case also describes a variant turbinate, which would be clinically significant.

Case Report

During the study of nasal turbinates in hemisected heads of Indian cadavers obtained from the cadavers used for gross anatomical dissections by different medical and dental colleges, a case with presence of accessory middle turbinate was found. Due permission was obtained from the concerned authorities of these medical colleges, prior to beginning the study. The cadavers without evidence of prior nasal surgery or gross pathology of the middle turbinate were selected.

A small turbinate like structure antero-superior to the middle turbinate was observed in the right lateral nasal wall in a 60-year-old male cadaver (Figure 1). It was a soft tissue projection and had absence of bony component. The middle and inferior turbinates were found to be hypertrophied. The middle turbinate was larger compared to the inferior turbinate. Supreme turbinate was also seen in this case.

Discussion

Ozturk et al. [5], have described a case of secondary middle turbinate. Secondary middle turbinate (SMT) is a rare anatomical variation of nasal cavity. It is a bony prominence covered with soft tissue that originates from the lateral wall and projects inferolaterally. This variation is important for endoscopic sinus surgery and inflammatory sinus diseases.

In the present study a small turbinate like structure anterosuperior to the middle turbinate was observed in the right lateral nasal wall. It could be confused with the superior turbinate on endoscopy leading to further problems in judgment of landmarks and distances; especially in procedures like ethmoidectomy, sphenoidectomy or operations related to skull base.

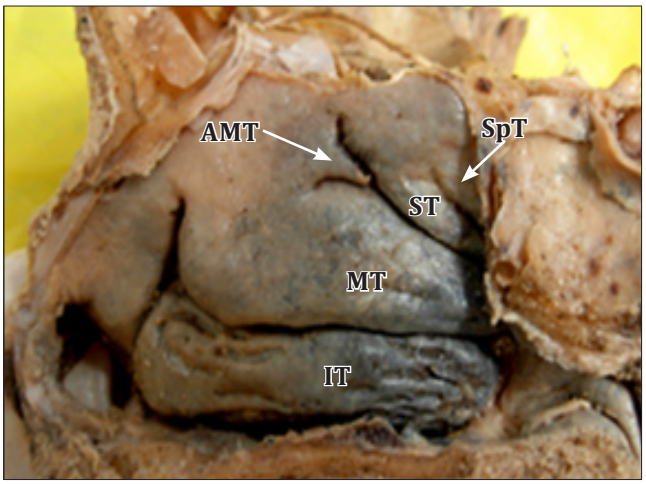

Figure 1. The right lateral nasal wall illustrating *accessory middle turbinate (**AMT**), supreme turbinate (**SpT**). (**ST**: superior turbinate; **MT**: middle turbinate; **IT**: inferior turbinate)*

A supreme turbinate was present in this case. The middle turbinate was larger compared the inferior turbinate. In the present case it was a unilateral finding. This structure observed antero-superior to middle turbinate was referred to as accessory middle turbinate. No sinus was found opening underneath it.

Possible Etiology

During embryonic development the superior, middle, inferior turbinates develop as elevations of the lateral wall of the nasal cavities. Differentiation in the mesoderm lateral and anterior to each nasal cavity, and in the nasal septum, gives origin to the cartilaginous and bony skeleton of the nose [6, 7]. So either the improper partitioning of the developed elevations or formation of extra elevations could be the probable cause of development of accessory middle turbinate. Such turbinate could be associated with bony tissue growth and presence of sinus opening(s) under its cover.

Conclusion

This variation is very important for the endoscopic sinus surgeons, as it may be mistaken to be superior turbinate. It could also give an appearance of double middle turbinate [4].

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