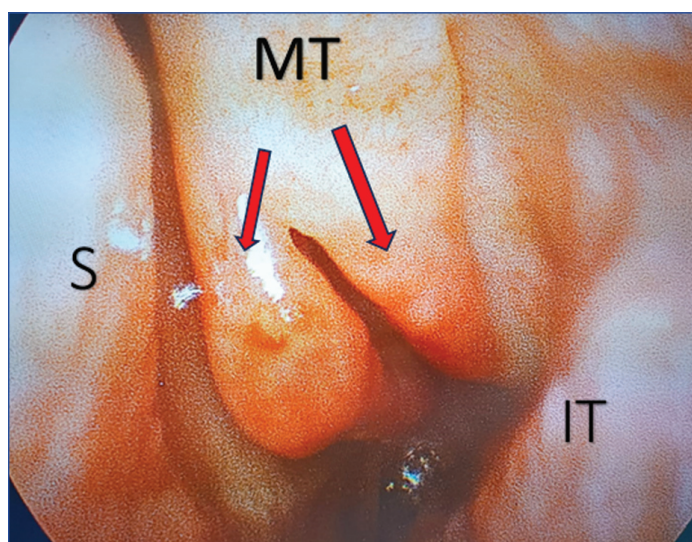


Bifid Middle Turbinate Associated with Unilateral Nasal Obstruction and Discharge

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A 40-year-old man came to the Ear, Nose and Throat Department (ENT) outpatient department complaining of a left-sided nasal obstruction that had been progressive and persistent for three years, along with a mucoid, odourless left-sided nasal discharge that had been present for two years. There was no history of swelling, facial pain, epistaxis, or allergies. Diagnostic nasal endoscopic examination was performed, which revealed a bifid middle turbinate on the left-side, which occupied the middle meatus region and appeared as two parallel turbinate-like structures divided by a cleft [Table/Fig-1]. Right-sided endoscopic results were normal.



[Table/Fig-1]: Diagnostic nasal endoscopic image of left-side nasal cavity shows bifid Middle Turbinate (MT) with a partial slit/cleft on the left-side on diagnostic nasal endoscopy (Red Arrow). Nasal Septum (S), Inferior Turbinate (IT).

For seven days, nasal saline irrigation, intranasal corticosteroids such as fluticasone furoate (two puffs once daily), and amoxicillin-clavulanate tablets were administered as part of the initial conservative treatment. On follow-up, however, no symptomatic improvement was noted; thus, planned Functional Endoscopic Sinus Surgery (FESS) along with middle turbinate reduction was performed. The postoperative period was uneventful, and the patient was discharged on third postoperative day. At six-week follow-up, significant improvement in nasal obstruction and nasal discharge was noted.

A rare, incidental anatomical variation of the lateral nasal wall, bifid middle turbinate is defined by the middle turbinate being duplicated or split into two separate lamellae [1].

The following conditions were considered while evaluating endoscopic findings and excluded:

- Accessory middle turbinate:** Reveals a medially bent uncinate process and appears as a separate turbinate-like structure. In the present case, the anomaly arose from a cleft within the middle turbinate itself, excluding this diagnosis [2].

- Paradoxical middle turbinate:** Reveals lateral convexity of the middle turbinate towards the nasal septum, while examination in the present case did not demonstrate this morphology [3].
- Concha bullosa:** On nasal endoscopy, it appears as a smooth, rounded, or bulbous swelling of the middle turbinate, and the present case showed a cleft within the middle turbinate [3].
- Secondary Middle Turbinate (SMT):** Appears as an additional independent bony projection arising from the lateral nasal wall. No separate accessory structure was observed in this case [4].
- Bifid Inferior Turbinate (BIT):** Anatomic variation originated from the middle turbinate ruling out BIT [4].

Thenata ML et al., found an unusual case of a 19-year-old female with two compartments in the right nostril since birth. Computed Tomography (CT) scan and nasal endoscopy revealed unilateral SMT and ipsilateral BIT with an uncinate process [5].

The middle turbinate plays a crucial role in regulating nasal airflow and maintaining the functional integrity of the osteomeatal complex. Variations affecting its morphology may alter mucociliary clearance and impair sinus ventilation and drainage, thereby predisposing to recurrent or chronic rhinosinusitis [6]. Recognition of these uncommon variations is particularly important, and Diagnostic nasal endoscopy remains the primary modality for identifying middle turbinate anatomical variations and CT scan helps in delineating their relationship to adjacent sinonasal structures [7].

Thorough endoscopic evaluation in patients with unilateral nasal symptoms underscores the need to consider rare three anatomical variations such as a bifid middle turbinate in the differential diagnosis.

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