

Dislocation of the inferior turbinates: a rare complication of nasal surgery, presenting as obstructive sleep apnoea

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Abstract

Objective: We report a very rare complication of nasal surgery: dislocation of the inferior turbinates into the nasopharynx, presenting as sleep apnoea and persistent nasal obstruction.

Case report: A 56-year-old woman presented with a history of obstructive sleep apnoea for one year and nasal obstruction for seven years. She had undergone nasal surgery one year previously. Non-contrast computed tomography of the nose and paranasal sinuses showed a mass near the posterior choana on both sides, confirmed by nasal endoscopy. The displaced turbinates were removed, after resecting their attachment at the posterior choanae, and the patient's symptoms were relieved.

Conclusion: This is a very rare complication of nasal surgery; to the best of our knowledge, we report only the second published case in the English language literature. We suggest that such cases be closely followed up post-operatively.

Key words: Complications; Turbinates; Sleep Apnoea, Obstructive; Surgical Procedures, Operative

Introduction

Nasal obstruction is a common presenting symptom of many disorders, including deviated nasal septum, nasal polyposis, allergic and infective rhinitis, and sinusitis. Persistence of nasal obstruction after nasal surgery can be due to inadequate surgery, recurrence of disease (e.g. polyposis), or adhesion formation between the septum and the lateral nasal cavity wall.

With recent advances in endoscopic surgery, the role of complete turbinate excision is now very limited. Complete turbinate excision results in 'empty nose syndrome',¹ characterised by crusting and nasal obstruction.

We present a very rare complication of turbinate surgery: post-operative dislocation of both inferior turbinates into the nasopharynx.

Case report

A 56-year-old woman was referred to the otolaryngology out-patient department by a neurophysician, with a history of obstructive sleep apnoea for one year and nasal obstruction for seven years. She had undergone nasal surgery one year previously, but her nasal obstruction had persisted. The nature of her nasal surgery was unknown as records were unavailable. For the past year, she had received much treatment from various physicians and otolaryngologists, in the form of nasal drops, steroid sprays and antibiotics.

Anterior rhinoscopy revealed marked oedema of the nasal mucosa, together with thick, mucopurulent nasal discharge.

After nasal decongestion, non-contrast computed tomography (CT) scanning of the nose and paranasal sinuses

showed a mass near the posterior choanae on both sides, extending into the nasopharynx. Coronal CT scans showed that the middle and inferior turbinates were missing in the anterior sections. However, there was a mass near the posterior choanae and nasopharynx (Figure 1).

A diagnostic nasal endoscopic examination confirmed the CT findings, showing the posterior end of the inferior turbinates to be dislocated into the nasopharynx on both sides. Both posterior choanae were blocked, with obstruction more on the right side than the left.

Posterior rhinoscopy revealed that the dislocated ends of the inferior turbinates were fused to each other.

The patient was scheduled for endoscopic surgery under general anaesthesia. Intra-operative findings were the same as those described above. The posterior ends of the dislocated turbinates were resected, in order to separate them from their respective nasal cavities. The fused, dislocated turbinates were then delivered through the oral cavity. Complete haemostasis was ensured.

The post-operative period was uneventful. The patient was comfortable after pack removal, and her sleep apnoea and nasal symptoms were relieved.

Discussion

Nasal obstruction is a common presenting symptom in the out-patient otolaryngology department. Of the many potential causes, turbinate hypertrophy may be the sole cause.² Other differential diagnoses of nasal obstruction, especially in the nasopharynx, include antrochoanal polyps,



FIG. 1

Coronal computed tomography scans of the nose and paranasal sinuses, showing the resected middle and inferior turbinates (upper part), and the dislocated inferior turbinates at the posterior choanae (middle part) and nasopharynx (lower part). R = right

nasopharyngeal cysts, benign tumours,³ hamartomas, angio-fibromas, nasopharyngeal cancer and foreign bodies.⁴

Turbinate surgery is recommended for cases of obstructive turbinate hypertrophy resistant to medical management. Partial or total removal of the inferior turbinate is well established as a treatment for nasal obstruction. However, some authors have condemned the practice as they believe it results in disturbance of nasal function, due to turbulent airflow in an excessively enlarged nasal cavity,⁵ which can impede ciliary action due to evaporation of mucus.

Post-operative complications of turbinate resection include bleeding, crusting, synechiae formation, anosmia, airflow changes, osteitis, cerebrospinal fluid leakage, atrophic rhinitis, recurrence of hypertrophy⁶ and empty nose syndrome. It is known that nasal obstruction and obstructive sleep apnoea are associated with each other.^{7,8} In the present case, these symptoms were due to bilateral obstruction of the posterior choanae, and were relieved following surgical correction.

Turbinate dislocation has also been reported secondary to nasotracheal intubation. In reported cases, mild epistaxis occurred in the days following extubation, but the complication itself was not recognised until the patient presented with headache and obstructed nasal breathing.^{9,10} In both

these reported cases, obstruction and dislocation were unilateral (unlike the present case, in which nasal obstruction and dislocation were bilateral), and the diagnosis was made on endoscopy. Surgical resection of the dislodged turbinate resulted in relief of symptoms.

- Dislocation of the inferior turbinate is a very rare complication following turbinate surgery
- A patient who complains of nasal obstruction after turbinate surgery should undergo careful endoscopic examination

At present, complications of turbinate surgery are very rare. To date, only one other, similar case has been reported in the English-language literature, in which a middle turbinate was dislocated into the nasopharynx.¹¹ In contrast, in the present case both inferior turbinates were dislocated, and became fused to each other within the nasopharynx. This type of complication could easily have been avoided if the operating surgeon had been more vigilant. It may have been the case that, after anterior resection of the turbinates, uncontrollable bleeding occurred, and that the surgeon, acting in haste, missed the chance to inspect whether the turbinates had been completely removed.

We suggest that patients who complain of persistent post-operative nasal obstruction should be followed up with diagnostic nasal endoscopy.

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