

## Nasal obstruction:

a common presentation in primary care

Ear, nose, and throat (ENT) problems make up around 10% of primary care consultations,<sup>1</sup> most of which can be managed effectively in primary care, with a small percentage of cases requiring referral to secondary care. Patients suffering from nasal obstruction often present with a feeling of fullness in the nasal cavity and reduced airflow. A detailed history of symptoms is essential (Box 1), along with its effect on the patient's quality of life.<sup>2</sup>

### EXAMINATION

Externally, the relation of the nose with adjacent tissue and structures should be assessed, along with identification of any bony and cartilaginous nasal deformities. Two common methods have been described to assess nasal airflow: the first is occlusion of one nostril and assessing the inflow and outflow through the opposite nostril, and the second uses a metal tongue depressor, observing the misting on the metal surface and comparing the two nostrils. Assessment of the collapsing of nasal valves is examined by inspection of the nose on deep inspiration. Alternatively, 'Cottle's manoeuvre' (improvement of airflow while holding the patient's cheek, preventing the collapse of nasal valve) can also be carried out.<sup>3</sup>

For an internal examination of the nasal cavity, anterior rhinoscopy should be performed with a head light and a Thudichum's speculum. If these instruments are not available, an otoscope with a speculum attached can be used for illumination and inspection of the anterior nasal cavity.

Physicians should look for evidence of rhinitis and polyps; examine the nasal septum for deviation or perforation; check the nasal turbinates — the inferior turbinate is easily seen, whereas the middle turbinate is more difficult to see (a common mistake is to confuse the inferior turbinate with a nasal polyp or other mass); and check for the presence of a foreign body.

A detailed history and examination may be sufficient to obtain a diagnosis, but some investigations may aid the process. *Allergy testing* may be used in conjunction with an appropriate history to diagnose allergic rhinitis. *Microscopy* of nasal pus may be useful if an infected cause is suspected. *Nasoendoscopy* is used to perform a comprehensive assessment of the nasal cavities and to assess the post-nasal space. The role of *imaging* in nasal obstruction has been debated, with many studies concluding that treatment should be guided by history and endoscopic examination rather than radiological findings.<sup>4</sup> CT and MRI should be reserved for cases where a malignancy is suspected or for surgical planning.

### CAUSES AND MANAGEMENT

*Structural abnormalities of the nose:* these cause significant disturbance to quality of life and are referred to secondary care for consideration of surgical intervention. Anterior septal deviation may be visible with anterior rhinoscopy and can be secondary to nasal trauma or a congenital variation. A septoplasty may be considered to correct septal deviation, which may improve nasal airflow. Furthermore, enlarged inferior turbinates may also benefit from referral to secondary care for a possible turbinoplasty, but maximal medical therapy should always be offered in the first instance. Collapsing of nasal valves on inspiration leading to nasal obstruction may be managed conservatively and easily with self-holding dilators or easi-breathe strips.<sup>5</sup> Surgical management to address this may be considered in some patients. Septal perforation is an anatomical defect of the nasal septum that can cause dynamic alterations in nasal function. Perforations occur following loss of integrity of the coating mucoperichondrium, with interruption of blood supply and subsequent necrosis. Causes of septal perforations can be categorised into iatrogenic, traumatic, inflammatory, neoplastic, infectious, inhaling irritants, or recreational drug

**S Mohamed**, ENT specialist trainee, MRCS, MRCS(ENT); **N Emmanuel**, BSc, MRCP, GP; **N Foden**, MBChB (Hons), ENT specialist trainee, St George's University Hospital, London.

#### Address for correspondence

Salma Mohamed, ENT, St George's University Hospital, Blackshaw Road, London SW17 0QT, UK.

**Email:** smohamed@doctors.org.uk

**Submitted:** 2 April 2019; **Editor's response:** 19 May 2019; **final acceptance:** 19 June 2019.

©British Journal of General Practice 2019; 69: 628–629.

**DOI:** <https://doi.org/10.3399/bjgp19X707057>

## Box 1. History

### Nasal obstruction

- Unilateral or bilateral? (Unilateral obstruction may indicate a structural aetiology, or a possible space-occupying lesion, including foreign bodies such as rhinoliths. Bilateral obstruction may indicate nasal polyposis or mucosal inflammation. However, they are not mutually exclusive).
- Timing of symptoms? Diurnal, seasonal (allergic cause), or perennial.
- Possible triggers.
- Nasal discharge (may signify acute sinusitis).
- Epistaxis.
- Infective symptoms.
- Olfactory disturbance.
- Symptoms concerning for neoplasia (unilateral symptoms with epistaxis or a unilateral middle-ear effusion).
- History of sinonasal surgery or trauma.

### Past medical history

- Nasal trauma.
- Sinonasal surgery.
- Nasal polyposis.
- Previous malignancy (possible recurrence).
- Atopic conditions.

### Medications

- Enquire about medications that cause a dry nasal mucosa and over-the-counter decongestants.

### Allergy status

- Medication and possible allergens.

### Social history

- Screen for risk factors of nasopharyngeal malignancies (for example, smoking, alcohol).
- Exposure to hardwood dust.
- Recreational drug use.

## REFERENCES

1. Griffiths E. Incidence of ENT problems in general practice. *J R Soc Med* 1979; **72(10)**: 740–742.
2. Rhee JS, Book DT, Burzynski M, Smith TL. Quality of life assessment in nasal airway obstruction. *Laryngoscope* 2003; **113(7)**: 1118–1122.
3. Esmaili A, Acharya A. Clinical assessment, diagnosis and management of nasal obstruction. *Aust Fam Physician* 2017; **46(7)**: 499–503.
4. McNeill E, O'Hara J, Carrie S. The significance of MRI findings for non-rhinological disease. *Clin Otolaryngol* 2006; **31(4)**: 292–296, discussion 296.
5. Bloching MB. Disorders of the nasal valve area. *GMS Curr Top Otorhinolaryngol Head Neck Surg* 2007; **6**: Doc07.
6. Fornazieri MA, Moreira JH, Pilan R, Voegels RL. Perforation of nasal septum: etiology and diagnosis. *Arquivos Int Otorrinolaringol* 2010; **14(4)**: 467–471.
7. Johnston M, Jones N. Nasal polyps. <https://www.entuk.org/nasal-polyps> (accessed 4 Nov 2019).
8. Jones NS. Nasal polyposis in children: a differential diagnosis and algorithm. In: Önerci TM, Ferguson BJ, eds. *Nasal polyposis*. Berlin, Heidelberg: Springer, 2010: 153–162.
9. Osguthorpe JD. Adult rhinosinusitis: diagnosis and management. *Am Fam Physician* 2001; **63(1)**: 69–76.
10. Smith TL, Mendolia-Loffredo S, Loehrl TA, et al. Predictive factors and outcomes in endoscopic sinus surgery for chronic rhinosinusitis. *Laryngoscope* 2005; **115(12)**: 2199–2205.

use.<sup>6</sup> Common presentations of septal perforations include crusting, whistling, epistaxis, and nasal congestions; however, some may be completely asymptomatic. Some perforations may be managed conservatively while others may require surgical input.

*Polyposis*: nasal polyps can be responsible for nasal obstruction. These are swellings of the lining of the nasal mucosa. Nasal polyps are usually secondary to chronic inflammation, although they may present as a manifestation of allergy, and can be associated with conditions such as asthma, aspirin intolerance, and cystic fibrosis.<sup>7</sup> Medical treatment with topical and/or oral steroids remains first line. Unilateral polyposis, however, requires urgent referral to secondary care and warrants a 2-week-wait referral. Nasal polyposis in children routinely requires further investigation as this may represent an underlying systemic condition. In children, differentials such as cystic fibrosis, primary ciliary dyskinesia, antrochoanal polyp, immunodeficiency, chronic infection, allergic aspergillosis, inverted papilloma, haemangioma, angiofibroma, encephalocoele, nasal glioma, and malignancy should be considered.<sup>8</sup>

*Rhinitis*: this is also a common cause of nasal obstruction, which can be treated effectively in primary care. Patients commonly present with rhinorrhoea, nasal congestion, and itchiness. Inflammation of nasal mucosa may be evident on examination and history may differentiate between allergic and non-allergic rhinitis. Allergic rhinitis is triggered by a specific allergen whereas non-allergic rhinitis may be due to a viral infection or rhinitis medicamentosa, a condition caused by excessive use of over-the-counter decongestants. Treatment for allergic rhinitis involves the use of nasal douches, nasal steroids, antihistamines, and avoidance of allergens. In general, medical management is sufficient in the treatment for most allergic rhinitis patients. However, there may be a role for surgery in patients who are resistant to maximal medical therapy.

*Chronic rhinosinusitis*: defined as inflammation and infection within the nasal passages and paranasal sinuses, presentation may include nasal blockage, post-nasal discharge, facial pain and/or pressure, headaches, halitosis, fatigue, and fevers (if acute rhinosinusitis). Chronic rhinosinusitis is defined as symptoms of rhinosinusitis that last for 12 weeks or more.<sup>9</sup> Management of chronic rhinosinusitis is similar to that of rhinitis;

however, there is a role for antibiotics and referral to secondary care for surgical consideration in some patients. Clinicians have typically divided chronic rhinosinusitis into those with (CRSwNP) and those without polyps (CRSsNP). Specific symptoms such as nasal airway obstruction and olfactory disturbance tend to dominate CRSwNP. Patients who have failed medical therapy should be referred to ENT for consideration of endoscopic sinus surgery. Surgery has been shown to improve both subjective quality of life outcomes and objective endoscopic improvement.<sup>10</sup> Patients must be made aware that, even following surgical intervention, medical treatment is still required for a prolonged period of time and may require further surgery.

*Neoplasia*: sinonasal tumours account for approximately 10% of all head and neck cancers, and may present with nasal airflow obstruction as their only symptom. These can be malignant or benign and both require urgent referral for further investigation. The most common types of malignant tumour include squamous cell carcinoma, adenocarcinoma, lymphoma, and melanoma. Symptoms may include unilateral obstruction, nasal discharge, epistaxis, diplopia, headaches, and cranial nerve dysfunction. Benign neoplasms such as papilloma, haemangioma, osteomas, and angiofibroma may also present with a similar picture. Red flags that warrant a 2-week referral to ENT include: unilateral nasal obstruction with purulent discharge, serosanguinous nasal discharge that persists for more than 3 weeks, facial palsy/cranial neuropathies, orbital masses, and severe facial pain.

## CONCLUSION

A thorough history and examination is essential in the assessment of nasal obstruction, particularly to exclude a malignant cause. Any suspicion of a sinonasal tumour should be referred urgently to secondary care. The majority of rhinitis and rhinosinusitis can be managed effectively in primary care with nasal hygiene, nasal steroids, and antihistamines. Secondary care is reserved for those who are resistant to medical management or for those with a structural abnormality.

## Provenance

Freely submitted; externally peer reviewed.

## Discuss this article

Contribute and read comments about this article: [bjgp.org/letters](https://bjgp.org/letters)