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Take-home points

- 80% of asthmatics have symptoms of rhinitis – defined simply as a triad of rhinorrhoea, nasal obstruction and sneezing or itching – and in 45% of asthmatics, rhinitis may appear first.
- There is evidence that treating allergic rhinitis in asthmatics – with nasal steroids and antihistamines – reduces bronchial hyper-reactivity.
- As a rule, antihistamines are useful against the early phase effects of the allergic response (sneezing and itching). Nasal congestion is often unresponsive to antihistamines but responds well to nasal steroids.
- Nasal steroids by virtue of their small dosage have fewer systemic effects than inhaled steroids.
- Topical nasal steroids are the mainstay of nasal polyp treatment.



All patients with asthma should be asked about symptoms of rhinitis

NEED TO KNOW

NOSE AND THROAT PROBLEMS

Allergic rhinitis, nasal polyps and fractured noses

In the first of a two-part feature, specialist registrar Dr Jeeve Kanagalingam answers questions posed by GP Dr Sonia Barros D'Sa

1 Recent guidelines suggest all asthmatics should be presumed to have allergic rhinitis too and be treated for this. Is this crossover significant, and does antihistamine use improve their asthma in the summer as well as their rhinitis?

In 1999 a workshop on allergic rhinitis and its impact on asthma (ARIA) sought to establish evidence-based guidelines on the treatment of allergic rhinitis in collaboration with the WHO. The guidelines emphasise that asthma and rhinitis are common comorbidities suggesting the concept of 'one airway, one disease'.

About 80% of asthmatics have symptoms

of rhinitis – defined simply as a triad of rhinorrhoea, nasal obstruction and sneezing or itching – and in 45% of asthmatics, rhinitis may appear first. All asthmatics should be asked about symptoms of rhinitis and treated if these symptoms are significant.

There is evidence that treating allergic rhinitis in asthmatics – with nasal steroids and antihistamines – reduces bronchial hyper-reactivity, the number of attendances at the A&E department and subsequent admission to hospital. Studies looking at the specific benefits of antihistamines in asthmatics are weak but have led the

28 American Academy of Allergy Asthma and Immunology to suggest they are beneficial in mild asthmatics with allergic rhinitis. The benefits in moderate and severe asthmatics are outweighed by the risk of their sedating effects.

2 How useful are nasal antihistamines in managing this group of patients?

As a rule, antihistamines are useful against the early phase effects of the allergic response – that is sneezing and itching. Nasal congestion is often unresponsive to antihistamines but responds well to nasal steroids.

Even second-generation oral antihistamines can have sedating effects. Nasal antihistamines offer a non-sedating alternative but have no effect on symptoms such as itchy eyes. There is little evidence to suggest any respiratory benefit in asthmatics.

3 Should we be worried about prescribing steroid nasal sprays for long-term use in prepubescent children, especially if they are already using steroid inhalers for asthma, in view of the risk of growth retardation?

Decisions about pharmacotherapy in children should always be made on a rigorous risk-benefit analysis. In children with severe asthma or rhinitis, growth may be retarded as a direct consequence of these diseases. Nasal or inhaled steroids may save these patients from infective exacerbations and oral steroid therapy – both of which will have an impact on growth.

The studies on growth retardation in children receiving intranasal and/or inhaled steroids are difficult to interpret as the type, dosage and mode of steroid delivery differ, and ‘surrogate’ outcome measures such as urinary cortisol secretion are used. Data on long-term outcome and combined nasal and inhaled steroid use are sparse.

Nonetheless, it is evident that nasal steroids by virtue of their low dosage have fewer systemic effects than inhaled steroids, and the newer-generation nasal steroids, such as mometasone (licensed for children from six years old) and fluticasone (licensed for children from four years old) are safer. The older drugs, specifically budesonide, have a demonstrable effect on the hypo-thalamic-pituitary-adrenal axis and growth, particularly at higher doses.

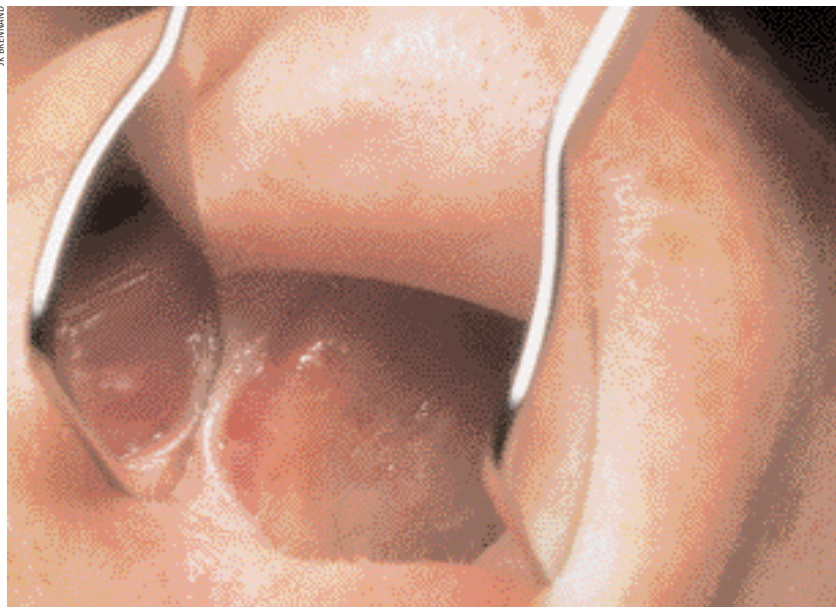
Once a decision has been made with parents on the need for treatment, the dosage of steroids should be titrated to the lowest possible dosage at which there is maximal clinical efficacy. Children should not be maintained at higher ‘treatment’ doses for prolonged periods. All children should have their height recorded and closely monitored. If there is growth suppression, treatment should be discontinued.

4 What is the best management of nasal polyps, and what prevents their recurrence?

Diagnosing nasal polyps is not easy in primary care where instruments for examining the nose are often not available. A history of nasal obstruction, post-nasal drip and anosmia are often suggestive. All unilateral polyps must be regarded as possible sinonasal neoplasms until proven otherwise.

Once a diagnosis has been made, inquire about possible associations with asthma and aspirin allergy. Nasal polyps with aspirin-sensitive asthma is known as Samter’s triad. The other potential aetiological factors are allergic fungal sinusitis, Churg-Strauss syndrome and primary ciliary dyskinesia (PCD).

Topical nasal steroids are the mainstay of treatment of nasal polyps. Surgery simply allows steroids access to the mucosa of the



Medical treatment of nasal polyps can be highly effective

nose and sinuses. A medical polypectomy comprising oral steroids for five days can be highly effective. There is good level 1 evidence to show symptomatic benefit with intranasal steroids, but this is restricted to nasal blockage, rhinorrhoea and sneezing. Improvement in sense of smell is poor.

There is only level 3 evidence available to support oral steroid treatment, but the effect appears to include improved smell. Other treatments that are purported to help include antileukotrienes, topical furosemide, capsaicin and aspirin desensitisation – but none of these is in routine use.

5 When is surgical removal of polyps indicated?

When medical treatment fails, surgical polypectomy offers quick and effective relief of nasal obstruction. In 2002 a systematic review of 33 studies of endoscopic polypect-

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omy found that 78-98% of patients reported a benefit with an overall complication rate of 1.4%. However, the recurrence rate was 8% at one year.

There is level 1b evidence to support the use of intranasal steroids following nasal polypectomy to prevent recurrence. Practically, however, patients who have regained their nasal airway following surgery quickly become non-compliant with nasal steroid treatment. It is important to reiterate to these patients the importance of long-term intranasal steroid treatment in preventing recurrence.

6 There has been some suggestion recently that we might better treat acute sinusitis with steroid sprays rather than oral antibiotics. How likely is a bacterial infection to go untreated, and cause serious sequelae?

Acute infective rhinosinusitis is due to a bacterial infection by common upper respiratory tract pathogens such as *Streptococcus pneumoniae*, *Haemophilus influenzae* and *Moraxella catarrhalis*.

A Cochrane review of antibiotic treatment for acute rhinosinusitis found benefit in treating this with a seven- to 14-day course of penicillin. While antibiotic resistance among the pathogens mentioned has increased over the years, the studies do not

'In children, nasal bone fractures are uncommon below the age of five'

show any significant difference in efficacy between penicillin and newer non-penicillins. Even dropout rates from treatment due to adverse reactions are equally low between the different antibiotic classes.

There is level 1 evidence to support the adjunctive use of intranasal steroids in acute rhinosinusitis. However, as a single treatment for acute rhinosinusitis, there is only one study (level 1b evidence) suggesting mometasone furoate at a dosage of 200µg twice daily as a superior alternative to amoxicillin. This needs to be interpreted carefully in the light of overwhelming evidence supporting antibiotic therapy.

The risks of orbital cellulitis, frontal bone osteomyelitis or intracranial infections are low, and to date there is little to suggest antibiotic treatment prevents these complications. Treating acute rhinosinusitis with

intranasal steroids alone – leaving a bacterial infection 'untreated' – is therefore not likely to lead to serious sequelae.

7 In an older patient with a unilateral nasal obstruction, how likely is malignancy?

The incidence of sinonasal tumours in the UK is between three and 10 per million – 18% of these are benign (for example, inverted papillomas) and the rest malignant. Certain patient groups are at higher risk and include those who work in the wood, nickel and chromium industries. Textile, shoe and boot workers are also at higher risk.

Unilateral nasal obstruction is the most common presentation with or without epistaxis, epiphora and visual disturbance. In the elderly, unilateral nasal obstruction should be investigated by an ENT specialist with nasal endoscopy. The likelihood of malignancy is not known but immaterial. A deviated nasal septum is not likely to present suddenly in later life and nasal polyposis is usually bilateral.

8 Many patients are concerned that after attending A&E with a broken nose, usual practice is to wait 10 to 14 days before an ENT review.

Why is this necessary? What about children – at what age is the nasal bone formed?

Nasal trauma can cause significant soft tissue swelling. In the immediate aftermath of an injury, it is vital to exclude a septal haematoma. This presents with increasing pain and complete nasal obstruction some hours after the injury, as blood fills the sub-perichondrial space. The other sequelae to exclude are a CSF rhinorrhoea and associated facial or skullbase fractures.

The uncomplicated nasal fracture may not require any correction if the nasal bones and septum, though fractured, remain in normal alignment. The assessment of this is best carried out five to seven days later when nasal oedema has settled. Nasal X-rays are unnecessary and do not alter management. If deformity is noted when the patient is reviewed, a manipulation under anaesthesia is undertaken. This should be done within three weeks of the injury.

In 40% of patients, there will be a residual deformity following reduction that may require a formal septorhinoplasty.

In children under five, fractures of the nasal bone are uncommon as ossification is not complete. While nasal trauma can cause significant parental anxiety, the evidence suggests that closed reduction of most fractures (a simple manipulation under anaesthesia) produces good long-term outcomes.

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Competing interests None declared

WHAT WILL I DO NOW

Dr Barros D'Sa responds to the answers to her questions

- I will assess and treat rhinitis in all patients who attend for asthma review
- I will record and plot height on growth charts for children on long-term steroids for asthma/rhinitis, and avoid budesonide in favour of fluticasone or mometasone
- I will refer an elderly patient with unilateral nasal obstruction
- I will check for other signs of head injury and base of skull fracture if I see a patient with an acute broken nose

Dr Sonia Barros D'Sa is a GP in Hampshire

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