Editorial

Dear Readers

I do have a spring in my step-as there is a Guest Editorial by none other than Mr Guy Kenyon. He was Editor and now holds the lofty post Editor Emeritus, *Journal of Laryngology and Otology*. Also included in this issue are two case reports. The articles in this issue are peer reviewed. There are changes in the Editorial Board due to Laura Machin stepping down. I am grateful for all her hard work and the bridges she has assisted build with Lancaster University

Tha*NHS* for reading

Shadaba Ahmed
Editor

For the next issue deadline is 15/07/2018

Management of Nasal Obstruction

Mr Guy Kenyon Editor Emeritus, *Journal of Laryngology and Otology*

In clinical terms we tend to think of nasal obstruction as being a relatively minor matter. We have all suffered with it when we have had a cold. In such circumstances of course the problem is relatively short lived and we get over it. Our lives, and our noses, return to normal. But can you imagine this symptom as a long-term problem? If you can you can surely appreciate the high morbidity that would likely result. The associated effects upon sleep and vocal quality, eustachian tube function and general well-being can be severe, and it is this morbidity that patients with uncontrolled allergic rhinitis, nasal polyps, sinusitis and septal deviations have to endure. It is why they go to their doctors in such numbers. And go they do. In one paper it was estimated that the cost of patients attending physicians in the United States with allergic rhinitis was $1.9 billion/year, and an even more staggering $6 billion/year was spent on patients attending with rhinosinusitis.[1]

While obstruction is common, good advice from doctors is not. The underlying causes are often not diagnosed and managed properly and from talking to patients over many years it seems they are often readily dismissed. Perhaps this is because nasal disease is not an integral part of medical school or postgraduate training, and understanding of the likely symptoms and findings is poor. There is no reason for this to continue.

In the history the questions to be asked are whether there has been any previous surgery or fracture or whether the patient has been treated for allergy including childhood eczema or asthma in the past. It is also essential to enquire about the nature of the obstruction. Is it fixed or variable, bilateral or unilateral and is it perennial or seasonal? The patient may have an occupation which potentially exposes them to allergens and this should be recorded as it is an occupational health matter. There also may be other clues which imply allergy including attacks of paroxysmal sneezing, nasal itching and conjunctival irritation. Discharge and its nature also needs to be documented and is important not to forget to ask whether the sense of smell is normal as, when it is lost, the patient cannot know whether food has "gone off". More importantly

they cannot smell gas: they may therefore need an alarm fitted at home to warn them of any domestic leak. The nose should then be examined and is not difficult. Any external deformity will be obvious and examination with a torch is all that is required in order to ascertain whether the anterior septum is straight, whether the nose is full of polyps and whether there is any associated infection.

It is not possible to give a full categorisation of all of the potential causes of nasal obstruction in a short article. But the commonest pathologies are easily explained and should be treatable in primary care. They include allergy, polyps, uncomplicated sinus disease and nasal fractures with a septal deviation.

ALLERGY

The prevalence of allergic phenomena including rhinitis is rising year on year. The causes for this rise are disputed: it may be that atmospheric air pollution contributes since diesel particulate and oxides in exhaust gases are known to cause rhinitic change. Equally it has been postulated that obsessive cleanliness and a lack of exposure to extrinsic allergens early in life may be a factor.[2, 3] The classical seasonal hay fever patient is easy to spot. There is often a background history of previous eczema or asthma and the patient presents with variable blockage, nasal irritation, mucous discharge and paroxysmal sneezing. There may be conjunctival injection and epiphora and, if the pharynx is also irritated, there can also be palatal irritation and even referred itching to the ears. If the symptoms are severe than the mucous can be episodically coloured both because of stasis and also because of eosinophil secretion. Of course such problems can also be perennial if the underlying allergen is the result of occupational exposure or if the patient is sensitive to a domestic pet, house dust or to house dust mite (*Dermatophagoides pteronyssinus*). Examination shows the lining of the nose to be swollen and pallid and even somewhat blueish in colour.

The mainstay of management is to first ascertain the responsible allergen. This can be readily done by a skin prick test where allergen is introduced into the subcutaneous skin on the flexor aspect of the forearm.[4] Any flare or wheal formation is then measured against the reaction to a control solution. It is important that the patient is not on an antihistamine for 5-7 days prior to this test or there may be no reaction. However the test is surprisingly sensitive and specific and also offers visual reinforcement to the patient of the nature of their underlying problem. The alternative is measurement of the total serum IgE level and, by radio allergen absorption (RAST), the titres of specific antibodies to possible allergens. The latter test is expensive but more objective. Once the cause is identified the patient should be advised to withdraw from exposure wherever possible. This is obviously impossible with airborne pollens but cleaning and damp dusting limits exposure to dust and house dust mite, which tends to live in bedding and carpets. Pets can be banned or, in severe cases, given to relatives. Mattresses can be turned and non-allergenic pillows and duvets, which can be regularly washed, can be purchased through sites such as *AllergyBestBuys.com*.

If symptoms are mild such avoidance measures may suffice. If they are more severe then a modern non-sedating antihistamine such as *Cetirzine* or *Fexofenadine* should be trialled. However antihistamines will not relieve block and, if blockage is a feature, then a steroid spray will also be needed. Modern drugs such as *Flixonase* or *Nasonex* used once a day are significantly more effective than older products such as *Beconase*, and have a shorter "wash in" period which encourages compliance. Long-term use is not normally contraindicated. Patients should be instructed to clear the nose before their use and should sniff in as the aerosol mechanism is discharged: this will help to ensure that the steroid is distributed evenly. Patients are commonly prescribed a "course" of treatment, which is wholly counterintuitivel no one would advocate limited therapy in a patient with severe asthma and the notion that a short course of treatment is appropriate for severe perennial problems is illogical.

If such measures fail then, exceptionally, parenteral therapy with steroid may be necessary. However injections of depot steroid such as *Kenalog* are not to be encouraged. Absorption can be erratic and local fat necrosis may ensue. There is no set regimen but it is better to give patients a tailed dose of oral steroid such as *Prednisolone EC* over 2-3 weeks starting with, perhaps, 10 mg bd for 5 days than it is to give an intramuscular preparation.

The use of immunotherapy was largely abolished in the United Kingdom following fatalities due to anaphylaxis, but it is making a come back in highly selected cases. Such therapy is widely available both in the United States and in Europe and it should be considered in patients with severe unremitting symptoms. The principles are the same as vaccination and rely upon an increasing titre of antibody being generated with each administration. Therapy needs to be conducted in a controlled environment with proper resuscitation techniques available. In practice this means that therapy is currently restricted to a limited number of centres.

Surgery has little place in patients with atopy. Reducing turbinates or undertaking a septoplasty is contraindicated unless there is gross deformity or unless the airway remains persistently blocked on medical therapy. Surgery can improve the airway in the short-term but, equally, it will make the patient more rather than less prone to an allergic challenge. Medication will always be needed and surgery cannot replicate the effects of medication in the long-term.

NASAL POLYPS AND SINUSITIS

Nasal polyps can occur with or without associated sinusitis. They are formed of prolapsed mucosa from the ethmoid sinuses which enters into the nose under the middle turbinates. Their aetiology is unknown but they are uncommon in children unless there is a history of cystic fibrosis or ciliary dyskinesia. They are also uncommon in black patients. It was thought that allergy was part of the aetiology as eosinophils are found in the stroma, but in fact the prevalence is in fact no more common then in non-atopic patients. As a result of their formation the openings from the majority of the sinuses, which drain into the middle meatus, become blocked. Mucous flow s interrupted predisposing the patient to sinus infection. Moreover as they grow polyps fill the airway and, as access

to the upper reaches of the nose is reduced, the patient is also denied a sense of smell: hyposmia or, more commonly, anosmia results. The behaviour of polyps is not always entirely benign and local bone erosion is not uncommon.

In patients with sinusitis alone the patient presents with nasal discharge which is purulent and trickles into the middle meatus before being blown out of the nose by the patient. It also drips into the post nasal space and can be blood stained on occasions. Contrary to poplar thought there is not normally any associated facial pain unless the symptom is of acute onset[5]. Severe facial pain alone normally implies entirely separate pathology such as migraine, cluster headache or trigeminal neuralgia.

In case of polyps there are grape like masses in the nose. If there is also allergy it can be difficult to distinguish between pallid mucosa over a turbinate and a polyp. In cases of doubt touching the structure will readily differentiate between the two: a polyp is insensate whereas mucosa is sensitive to the touch. In cases of sinusitis pus can be seen in the middle meatus.

The mainstay of treatment in both cases is medication with steroids and with antibiotics. In severe cases of polyposis a short course of oral steroid will normally allow opening of the airway which should then be maintained initially by the use of topically applied steroid drops and then followed by a spray. Drops in the form of *Flixonase* nasules, 6 drops a day to each side for one month to 6 weeks with instillation once or twice a day with the patient lying supine with the head extended, are highly effective. However they are systemically absorbed and cannot be used long-term. After treatment with drops the patient should remain on a steroid spray indefinitely. Associated with topical management should be the management of infection, and a macrolide antibiotic such as *Clarithromycin* 500 mg twice a day for a month to six weeks helps to clear the airway. Adjunctive treatment with inhalations and saline washes such as *Neil Med* are helpful in many cases.

If medical therapy fails then surgery is necessary. Various methods have been advocated but the most common modern procedure is to evaluate the extent of the disease with a CT scan and to perform endoscopic sinus surgery with a debrider to remove polyps and to open the sinuses (FESS). Post operatively a saline douche is then normally advocated and after the nose has settled steroid therapy with a spray should then be re-instituted in polyp cases as recurrence is almost invariable. However steroid therapy will only act to prolong the interval between operations and to remove recalcitrant polyps.

NASAL FRACTURES AND SEPTAL DEVIATION

Finally there is obstruction caused by skeletal malformation. Most septal deviation is almost certainly the outcome of part trauma, which is common as nasal injury is one of the commonest fractures in man. Nasal trauma may follow any accident but most frequently results from contact sport, a road accident or from pugalistic behaviour.

If the bone and external structures are broken the patient presents with a swollen nose and with bleeding, but the latter is normally self-limiting unless the trauma is severe. However in the acute phase a haematoma can form under the mucosa of the septum, and this risks devitalising the underlying septal cartilage as the mucosal layer carries its blood supply. Such a haematoma presents with acute bilateral obstruction and a plum coloured swelling on both sides with severe limitation of airflow. Immediate drainage avoids cartilage absorption and subsequent external saddling.

More frequently no internal haematoma is evident and the patient should be seen again within a week to assess the deformity and to decide whether manipulation under anaesthetic is required. In this respect a photograph taken in the recent past before the accident provides helpful information. An X-Ray is not indicated. It can only show bony deformity and does not aid management.

Many years ago Murray and Maran showed that simple bony manipulation alone is probably inadequate in many instances and, on the basis of clinical and laboratory studies, they recommended that when the soft tissue deformity is severe manipulation should be combined with a septoplasty.[6] Sadly this is not advice which has been routinely adopted and, as a result, there are a large number of patients who later present with fixed nasal obstruction and a septal deviation due to inadequate fracture reduction. In some instances there is a co-existent external nasal deformity. The obstruction can only be relieved by septoplasty surgery in combination, where necessary, with re-fracturing of the bones as part of a formal septorhinoplasty procedure. Such surgery has a distinguished history but its long-term efficacy in restoring airway patency has been questioned and formal trials of its benefit are under way.

In conclusion, nasal obstruction is common. Do not dismiss it. Simple treatment and common sense is required and the management is often highly effective. In turn, successfully treated patients are invariably happy and grateful. They have every reason to be, for restoration of the nasal airway improves their quality of life immeasurably.

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