Nasal Polyps — A Preliminary Diagnosis

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SUMMARY: It is often considered that where nasal obstruction can be attributed to the presence of nasal polyps that the diagnostic process is at an end. The fact that the majority of simple nasal polyps are benign reinforces this view. Linked with this, the fact that the majority of serving soldiers are healthy, may lead the unwary into not suspecting some of the other types of nasal polyp.

Introduction

The following cases describe patients seen within a six month period in the Ear, Nose and Throat Department of the Queen Elizabeth Military Hospital where the diagnosis of simple nasal polyp was simply a preliminary to the finding of a more serious condition.

Case Reports

1. Nasal Polyps With Asthma

A 34 year old staff sergeant musician was seen at both the Medical and Ear, Nose and Throat outpatient departments with nasal obstruction and restricted wheezy breathing which was diagnosed as nasal polyps associated with asthma. He had joined the Army straight from school in 1974 without any difficulties and had always been considered fit. There was no family history of any asthma. Quite suddenly during the 1989 Edinburgh Military Tattoo he developed nasal obstruction associated with sneezing and rhinorrhoea which he ascribed to a simple summer cold. Prior to this he had always had clear nasal airways and played the euphonium in the Royal Artillery band without difficulty. Following this attack, which lasted for several weeks, his breathing was never quite clear. Nasal polyps were diagnosed. In December 1991 he developed a headache and took an aspirin, as was his custom. This time, however, he developed a tightness of the chest, a skin rash and running of the eyes and nose which lasted for 24 hours. Since then he had only ever taken aspirin again once, and that was by mistake when he was given a compound preparation containing 70% paracetamol and 30% aspirin. He suffered the same symptoms but this time with an associated swelling of the face and eyelids. He underwent nasal polypectomy in August 1991 without any difficulty but within two months had developed asthma. Within a month of this he had to have a repeat operation as the polyps had recurred. Following this he noticed that he developed allergic symptoms when eating or drinking anything containing tartrazine.

Comments

An association between nasal polyps and asthma has been recognised for more than 80 years, and both the onset of asthma and its improvement or deterioration following polypectomy have been recorded. Similarly the association between nasal polyps, asthma and aspirin sensitivity (the acetylsalicylic acid (ASA) triad is well established. In a study on 445 cases of nasal polyps, Moloney showed that 2% of all the patients had this triad and 21% had asthma (1).

2. Nasal Polyp — Malignant Melanoma

An 83-year-old lady was referred with: a history of epistaxis of a few weeks duration; examination showed a large polyp in her left nostril which bled easily when touched. A fleshy polyp was clearly seen to be occluding the left side of her nose. Sinus X-rays showed an opaque left antrum. An ophthalmology consultation confirmed that she was free from any orbital or ocular disease and her neck was clear to palpation. At operation a blackened tumour mass was found in the left vestibule and the left inferior turbinate was hypertrophied with a melanotic spot, as was the middle turbinate. Histological examination showed a focally pigmented tumour with ulceration of the overlying squamous epithelium and the features of a malignant melanoma (Fig 1a). This was removed via a lateral rhinotomy approach.

Comments

Melanomas of the respiratory tract arise from melanocytic precursors normally present in the mucosa and submucosa. Between 0.5% and 1% of all malignant melanomas have a primary origin in the nasal cavity and paranasal sinuses, making up approximately 3.5% of all neoplasms in these sites (2). The highest incidence is in patients in their fifth to eighth decades, with no significant sex predilection. The typical intranasal melanoma is a polypoid and fleshy tumour. As with other
melanomas, the degree of pigmentation is variable. The presenting symptoms are usually epistaxis and/or obstruction; some patients have pain. Regional lymph node metastases at admission are not common, figures showing that cervical metastases are present in about 18% of patients on initial examination, but the lethality of the mucosal melanoma does not depend on this event. Five and ten year survival figures are low, ranging from 38 to 17% and these figures have not changed with time. Surgery is the treatment of choice with radiotherapy having little to offer.

3. Nasal Polyp — Inverted Papilloma
A 75-year-old man was referred with a six week history of right-sided nasal obstruction following an upper respiratory tract infection. Examination of the nose revealed what appeared to be a hypertrophied inferior turbinate consistent with nasal allergy (Fig 1b) and the presence of nasal polyps. Histological examination following removal, however, showed that this was a transitional cell (Ringertz) papilloma.

Comments
Transitional cell papilloma was originally described by Ringertz in 1938 who noted its histological feature of deep invaginations of the epithelium into the stroma by which it is diagnosed and from which it derives its alternative name of inverted papilloma (3). They are usually found unilaterally and with a male predominance of 5:1. Treatment is by surgical removal with radiotherapy not indicated even for recurrences, which frequently occur following local intranasal removal. Their important feature is a tendency to undergo malignant change, in about 2-5% of cases, which was first described in 1970 (4).

4. Recurrent Nasal Polyps
A 45-year-old man was referred on three separate occasions within the past decade to the ENT service at Woolwich for nasal polypectomy. Each time operative removal was followed by recurrence within a few months despite the regular use of a corticosteroid nasal spray. His father and both his brothers suffer from the same trouble, though none have asthma or aspirin hypersensitivity.

Comments
The rate of recurrence of nasal polyps is very variable but a two year study has shown that 5% of patients have had five or more previous polypectomies (5). There are five main theories as to the pathogenesis of nasal polyps: the Bernouilli phenomenon, polysaccharide changes, vasomotor imbalance, infection and allergy. All may contribute, but none can be universally incriminated and for recurrence the single most detectable factor is the association with asthma (6), from which our patient does not suffer.

5. Nasal Polyp — Wegener’s Granuloma
A 46-year-old lady was referred with a complaint of nasal obstruction which had not responded to antihistamines or a steroid nasal spray. An unusual looking polyp was removed and the nasal septum, which was seen at operation to be perforated, biopsied. Careful
histological examination revealed mucosal ulceration with severe acute and chronic inflammatory infiltration. In many places the polymorphs were aggregated to form small abscesses which in places showed a perivascular distribution. In addition there was infiltration of blood vessels by acute and chronic inflammatory cells, features all consistent with a diagnosis of Wegener's Granulomatosis. This was confirmed with the specific serological test, the classic antineutrophil cytoplasmic antibody c-ANCA. Tests of urinary function were normal, as was the chest X-ray.

Comments

Wegener's granuloma is a rare, multisystem disease distinguished by a triad of necrotising granulomatous vasculitis involving the upper and lower respiratory tracts, glomerulonephritis and systemic small vessel vasculitis. The aetiology is unknown and until recently it was considered uniformly fatal. In the most recent large study renal disease occurred in 58% and 61% of patients had abnormal chest X-rays, large opacities being most common (7). Its course has been dramatically improved by daily treatment with cyclophosphamide and glucocorticoids but disease and treatment-related morbidity is often profound (8).

Discussion

Nasal polyps are rounded projections of oedematous mucous membrane which appear clinically as smooth, shiny, movable swellings, usually bluish grey in colour. An inferior turbinate, hypertrophied through nasal allergy is often mistaken for a polyp (Fig 1) but polyps can be distinguished by their mobility, uniform softness and lack of sensitivity (9). As such, the labelling of the symptom of nasal obstruction as due to the condition of nasal polyposis is simply the beginning of a descriptive diagnosis and not an end in itself. Simple "allergic" nasal polyps have been recognised for thousands of years — Hippocrates devised a method of removing them by passing a string through the nose into the nasopharynx and reaming them out. Nevertheless, rarely, a more sinister condition may be present. Within the thirty year period 1961-80 there were 33 cases (26 referred from elsewhere) of malignant melanoma of the nasal cavity seen at the Royal National Throat, Nose and Ear Hospital, London (10). This is not, therefore, a common condition, but one for which one must have an index of suspicion. Along with the Ringertz tumour, which is also rare, it is the reason that all nasal polyps removed at operation are subjected to histological examination. Even when the histology report comes back as simple allergic polyps, there may be an associated asthma or aspirin sensitivity or the condition may be very prone to recurrence.

Conclusion

Polyposis of the nose is a descriptive diagnosis which may conceal a more serious pathology or symptom complex, cases of which, although rare, can and are being seen in military hospitals.

REFERENCES

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