

Pyogenic granuloma of the nasal septum: A rare cause of epistaxis

Nor Eyzawiah HASSAN ^{1, 2} and Bee See GOH ¹

¹ Department of Otorhinolaryngology Head & Neck Surgery, Faculty of Medicine, Universiti Kebangsaan Malaysia, and ² Otorhinolaryngology and Head & Neck Surgery Unit, Faculty of Medicine and Health Sciences, Universiti Sains Islam Malaysia, Malaysia

ABSTRACT

Pyogenic granuloma (PG) is a benign hyperplastic, vascular proliferation either on the skin or mucosal membranes. It commonly occurs following traumatic or hormonal changes, particularly in pregnancy. While the lesions occur frequently in the oral cavity in the head and neck region, occurrence in the nasal septum is rarely reported. We report a case of a 23-year-old male with unilateral pyogenic granuloma of the anterior nasal septum, who presented with epistaxis and nasal blockage. Although intra nasal PG is rare, we advocate that PG be considered in any anterior nasal septum mass with epistaxis.

Keywords: Pyogenic granuloma, lobular capillary haemangioma, epistaxis, nasal obstruction, nasal septum

INTRODUCTION

Pyogenic granuloma (PG) is a benign vascular proliferation tumour, alternatively known as lobular capillary haemangioma (LCH). It was first described as 'human botryomycosis' by Poncet and Dor in 1897, and later known as pyogenic granuloma, telangiectatic granuloma, granuloma pedunculatum or infected granuloma. ^{1, 2} PG commonly occurs in the head and neck region and its occurrence in the nasal septum is rare. ^{3, 4} It occurs more often in the females in their 3rd decade. The incidence has been reported to be about 5% higher during pregnancy. ² In the paediatric age group, the incidence in males predomi-

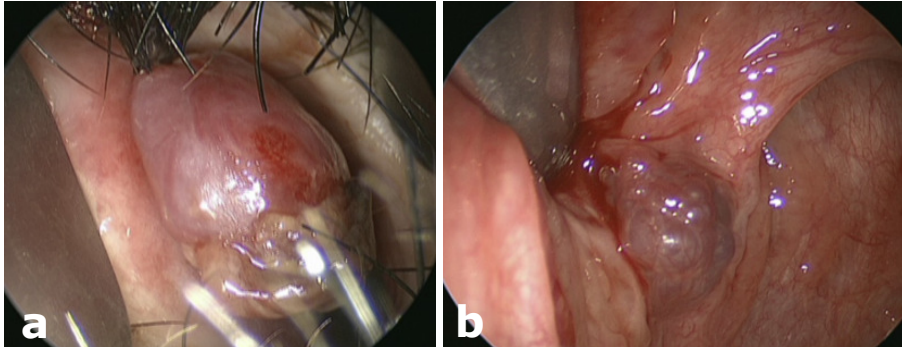
nates. ²⁻⁴ The aetiology for PG is currently unknown, but trauma, hormonal changes, and some medications have been suggested as potential contributing factors. ⁵ We present a rare case of a 23-year-old male with unilateral pyogenic granuloma of the anterior nasal septum, who presented with epistaxis and nasal blockage.

CASE REPORT

A 23-year-old man presented with recurrent anterior epistaxis and left sided unilateral nasal blockage of one month duration with no significant risk factors. He has a background history of allergic rhinitis.

Nasal endoscopy revealed a 1cm broad-base bluish lobulated mass that arose from

Correspondence author: Bee See GOH
Department of Otorhinolaryngology- Head & Neck Surgery, Faculty of Medicine, Universiti Kebangsaan Malaysia, Jalan Yaakub Latif, 56000 Cheras, Kuala Lumpur, Malaysia. Tel: 603 91456045
Fax: 603 91456675, E mail: irenegbs@yahoo.com



Figs. 1: a) Endoscopic image showing the anterior left nasal septal mass, and b) Lobulated mass at the right posterior pillar.

the anterior left nasal septum (Figure 1a). Oral cavity examination revealed a bluish mass approximately 1cm in size (Figure 1b), and arising from the right posterior pillar. As the origin of the mass was localised and clearly identified, imaging study was not done.

An endoscopic excision biopsy of the nasal septum mass until the sub-perichondrium was carried out using a cold instrument. There was no evidence of erosion into the septal cartilage (Figure 1). Haemostasis was easily secured with bipolar diathermy, and surgical was later applied to the raw septal area. The right posterior pillar mass was completely excised with cold instrument via direct laryngoscopy (Figure 3).

Histopathological examination of the septal mass revealed it to be a pyogenic granuloma, whereas the right posterior pillar mass was a haemangioma. One month post-operatively, the nasal septum has healed and at the 10-month postoperative follow-up, there was no evidence of recurrence or residual disease.

DISCUSSION

The term PG was first described by Hartzell in 1987.⁶ However, the term is not representative of the underlying histopathological features.⁷ In PG, the microscopic features consist of proliferations of capillaries, and there are no pyogenic or infectious entities, nor are there macrophage-laden or granulomatous entities. Hence, the term 'lobular capillary haemangioma' as describe by Mills *et al.* is more appropriate.^{7,8} Despite this, the term 'pyogenic granuloma' is still commonly used in most scientific literature.

Patrice *et al.* in thier series of 178 patients, reported that the head and neck area, particularly the oral cavity accounted for the most common sites to be involved (62.4%), and in reducing frequency: the trunk (19.7%), upper extremity (12.9%) and lower extremity (5.0%).⁵ PG commonly occur on the skin (88.2%), and to a lesser extent on the mucosal surface of the oral cavity and conjunctiva.⁵ In a series of 73 cases of PG affecting the aerodigestive tract, the most common sites involved were the lips (38%), nose (29%), oral mucosa (18%), and tongue (15%).⁸ Another author reported that the

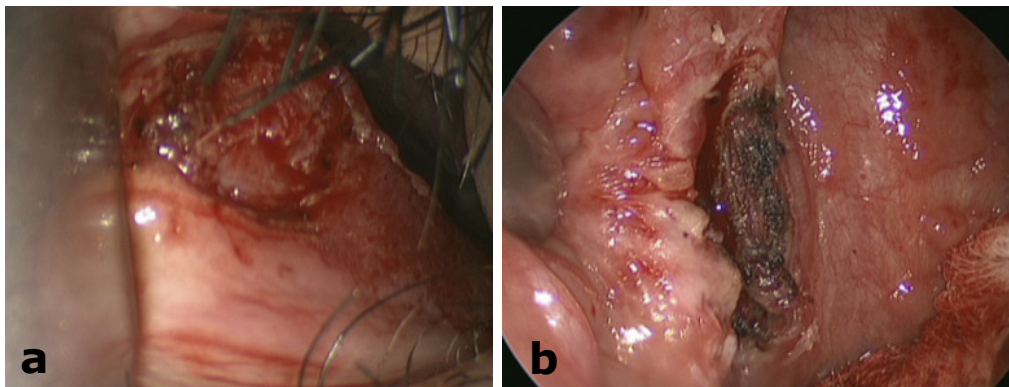
nasal cavity was involved in only 7–10% of their patients, with the anterior portion of the septum mucosa and the tip of the turbinate being the most commonly involved areas.^{6,7}

The pathogenesis of PG remains unclear. While it is accepted that trauma is a common cause of PG, a series by Patrice *et al.* found that only 7% of patients had preceding history of nasal trauma.⁵ Habitual nasal picking, prolonged contact with irritating agents from nasal packing, nasogastric tube or foreign body have all been reported to induced trauma.⁹ PG can also occur in association with increased level of oestrogen and progesterone as seen during pregnancy. Associations with a variety of oral medications such as oral contraceptive pills, retinoids, antiretroviral agents (indinavir), chemotherapeutic agents (capecitabine-5-fluorouracil-cyclosporine), and medical equipment placed on the skin or elsewhere in the body have been reported.⁵ It has also been postulated that angiogenic growth factors, microscopic arteriovenous malformation and the presence of viral oncogenes may play a role.² Development of PG in our patient could have been due to habitual nasal picking. Our patient also had a haemangioma of posterior pillar of the

right tonsil. The role of angiogenic growth factors or underlying microscopic arteriovenous malformation may explain the pathogenesis of PG in our patient.

Reported symptomatic manifestations include unilateral epistaxis (95%), nasal blockage (35%), rhinorrhoea (10%), facial pain (7.5%), headache and hyposmia (4%).² PG commonly presents as a red-purple coloured mass, lobulated, broad-based or pedunculated and may become ulcerated due to exposure to trauma, with variation in size.

A wide range of different pathologies can mimic PG. These include proliferating pilomatricoma, bacillary angiomatosis, Kaposi's sarcoma, malignant melanoma (particularly in children), Pseudo-Kaposi's sarcoma (acroangio-dermatitis), and recurrent intravascular papillary endothelial hyperplasia (Masson's lesion). Furthermore, nodular hidradenoma, angiolymphoid hyperplasia with eosinophilia, glomus tumour, cherry haemangioma, basal cell carcinoma, angioendothelioma, necrotic skin tag or necrotic wart also need to be considered in the differential diagnosis of PG.¹⁰



Figs. 2: a) Endoscopic image after resection of the anterior left nasal septal mass, and b) after resection of the right posterior pillar.

Radiological evaluation (computed tomography or magnetic resonance imaging) are only indicated as complementary tests to nasal endoscopic examination in large lesions especially those involving the skull base, or rapidly enlarging mass with evidence of bony erosion to exclude malignancy.¹¹ In our case, as the origin of the mass was clearly identified with endoscopy and limited to the anterior nasal septum, imaging study was deemed unnecessary.

Histological evaluation may confirm a diagnosis of PG. Characteristic histological findings include lobulated circumscribed anatomising networks of capillaries in the fibromyxoid stroma. The overlying epithelium is usually ulcerated with superficial neutrophilic infiltrates, with irregular dilatation of blood vessels and areas of atrophy.^{2,7}

PG is non-neoplastic and can resolve spontaneously. But significant morbidity from epistaxis and nasal blockage need to be anticipated. If treatment is required, endoscopic excision is the treatment of choice. In adult patients with small anterior lesion, resection under local anaesthesia is sufficient. For larger lesions, lesions in children or lesions located at or close to critical structures, excisions under general anaesthesia are preferred, as this provides a better view and more controlled situation setting. Endoscopy provides excellent visualisation of the lesion and adjacent anatomy, and also allow optimal control of bleeding.²

In conclusion, we report a rare occurrence of nasal septum PG in a young adult male. Failure to recognise the clinical features and histo-pathological characteristics can lead

to confusion with other form of haemangioma or granulating lesions. Simple excision can be curative. Therefore, PG should be considered in the differential diagnosis of any anterior nasal septum mass.

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