Endoscopic excision of a giant pyogenic granuloma of the nasal cavity caused by nasal packing*

Neil Bhattacharyya[1], Randall K. Wenokur[1], Max L. Goodman[2]

[1] Department of Otolaryngology, Massachusetts Eye and Ear Infirmary, Boston, U.S.A.
[2] Department of Pathology, Massachusetts Eye and Eye Infirmary, Boston, U.S.A.

SUMMARY

A case of a giant pyogenic granuloma of the inferior turbinate secondary to nasal packing is presented and its removal via an endoscopic approach is detailed. The sinus endoscope provides excellent visualization and operative control during excision, obviating the need for a lateral rhinotomy. Pyogenic granulomas of the posterior nasal cavity are rare, and should be considered when a nasal mass is detected after packing for epistaxis.

Keywords: nose neoplasms, pyogenic granuloma, endoscopic sinus surgery, epistaxis

INTRODUCTION

Pyogenic granulomas (or: lobular capillary haemangiomas) are common lesions of the mouth and anterior nasal cavity. They rarely arise in the posterior nasal cavity or nasopharynx. We present a case of a giant pyogenic granuloma of the posterior nasal cavity felt to be caused by repeated nasal packing, and its excision with the nasal endoscope.

CASE REPORT

A 43-year-old white female presented to the Emergency Department with a 2-month history of epistaxis from the right nasal cavity. She took coumadin for a history of deep venous thrombosis and pulmonary emboli. She had no prior epistaxis, facial pain, fever or nasal obstruction. Endonasal examination showed no evidence of a lesion, and she was treated with anterior packing. She had recurrent epistaxis on three following occasions over one month, all treated with expansile sponge packing without nasal cautery. After the final packing was removed, endoscopic examination revealed a lobulated, irregular, friable mass filling the lower two-thirds of the right nasal cavity. The hard palate, dentition and right eye were normal. A CT scan was obtained showing a soft tissue density along the right lateral nasal wall (Figure 1). A biopsy specimen was obtained under local anaesthesia, followed by significant haemorrhage which required formal gauze packing of the right nasal cavity. Under general anaesthesia, she underwent endoscopic exploration of the right nasal cavity with preparations for possible Caldwell-Luc and lateral rhinotomy for the excision of this tumour. The mass was found to be originating from the posterior portion of the right inferior turbinate (Figure 2). A 2.0×3.0×4.0cm mass was endoscopically excised at its base, followed by removal of a cuff of normal appearing turbinate. Pathology confirmed the diagnosis of pyogenic granuloma (Figures 3). The lesion has not recurred at one year follow-up.

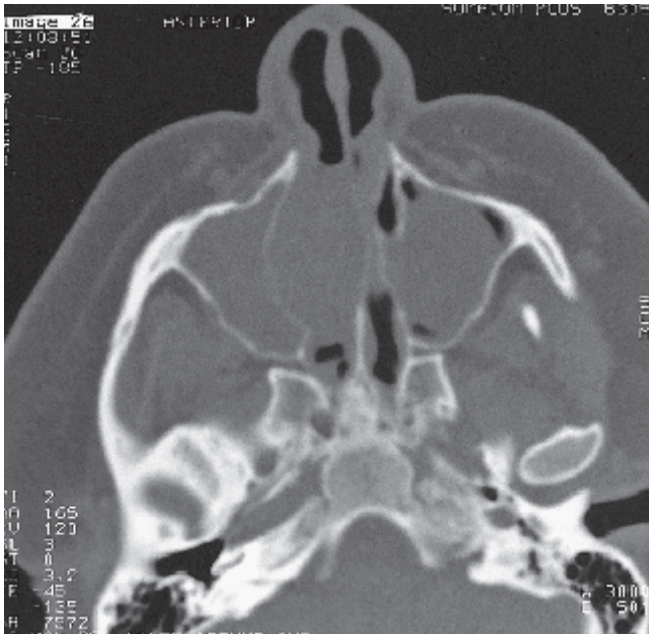

Figure 1. Axial CT-scan at the level of the lesion.

DISCUSSION

Pyogenic granuloma (PG), also known as lobular capillary haemangioma, is a vascular proliferation of endothelial cells arranged in a characteristic pattern of circumscribed capillaries arranged in lobules (Mills et al., 1980). Grossly, the lesion is usually described as irregular and friable, and may demonstrate areas of ulceration, exudate and bleeding. Histologically, PG is neither pyogenic nor

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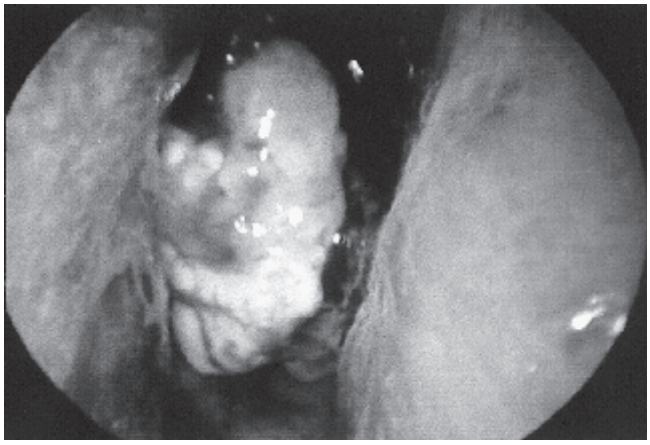

Figure 2. Endoscopic view of the lesion seen arising from the posterior aspect of the right inferior turbinate.

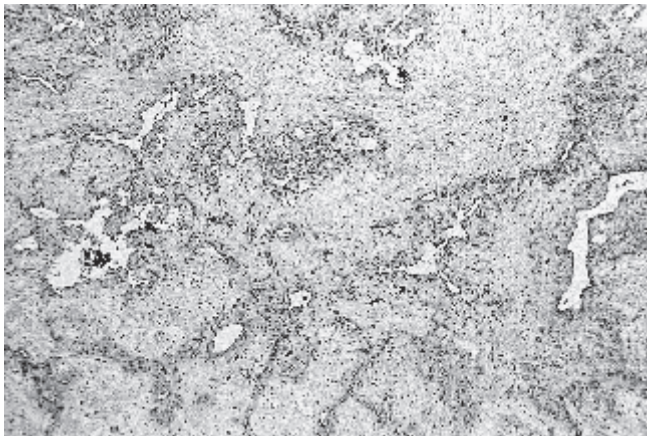

Figure 3. Low-power view of the pyogenic granuloma pathology specimen (×10).

granulomatous. There may be areas of differing cellular density, with some compact areas of highly dense clusters of endothelial cells, and other regions of dilated capillaries lined with a single layer of endothelial cells. Areas of inflammation and fibrinoid exudate, especially near areas of ulceration are not uncommon. In addition, multiple mitotic figures may be seen, although the lesion is benign. In severely atypical cases, the lesion must be differentiated from other vascular proliferations such as Kaposi's sarcoma and haemangiosarcoma (Lance et al., 1992).

The overall incidence of pyogenic granuloma of the head-and-neck mucous membranes is unknown. However, the lip is the most common site (38%), followed by the nose (29%), oral mucosa (l8%) and tongue (15%). In the nasal cavity, the septum is the most common site of origin (Mills et al., 1980). Lesions arising in the posterior nasal cavity have not been reported. Females are affected more than males, and they tend to be of child-bearing age (Bhaskar and Jacoway, 1966). There is also a marked increase in prevalence among pregnant women, and this has given the tumour the moniker "the pregnancy tumour." The most commonly presenting symptom is bleeding, but nasal obstruction and smell alterations may also be involved. Pain is not a common presentation of this lesion. The lesion is usually obvious on intranasal or intra-oral examination as a grey-to-pink, irregular and friable mass, often with a pedunculated base. Although it can usually be biopsied with ease, significant bleeding may ensue due to its vascular nature. The CT findings are non-specific. There is usually a soft tissue density with post-obstructive secretions and there may be local osseous destruction as well (Lance et al., 1992). Pyogenic granuloma of the posterior nasal cavity is rare, and to our knowledge has not been previously reported as a complication of nasal sponge packing for epistaxis.

Treatment requires local total excision. In those cases arising during pregnancy, excision may be reserved for those lesions that do not resolve postpartum (Manus et al., 1995). For tumours arising in the nasal cavity, the resection can be achieved endoscopically, especially if the diagnosis has be made by previous biopsy, and malignancy has therefore been excluded. The recurrence rate after excision is approximately 15% (Bhaskar and Jacoway, 1966). The case presented illustrates the advantages provided by the sinus endoscopes. The lesion was removed *in toto*, with good margins, and without the need for an external incision.

Much discussion has emerged in the literature regarding the aetiology of PG. While some authors feel that PG has a traumatic aetiology, others believe that its growth is hormonally motivated (Premalatha and Thambiah, 1979). The significant increase in incidence of this lesion during pregnancy has been cited as the primary reason to propose an estrogen or progesterone link (Mussalli et al., 1976). A recent study by Whittaker et al. (1994) attempted to quantify the estrogen- and progesterone-receptor status of these lesions. They found no quantitative difference in receptor levels between PG occurring in men and those occurring in pregnancy, but there was uniform staining for estrogen receptors in PG. They argue that the level of circulating hormone is more important than the tumour itself being estrogen- or progesterone-dependent via receptors. Despite the unclear aetiology, its treatment via local excision remains effective.

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Neil Bhattacharyya, MD
Department of Otolaryngology
Massachusetts Eye and Ear Infirmary
243 Charles Street
Boston, MA 02114
USA