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Case Report

Antrochoanal polyp with bilateral extension, bony erosion and protruding out through anterior nares in 45 year old female: rare case presentation

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ABSTRACT

Antrochoanal polyp or Killian polyp is a benign, solitary lesion that affects mainly children and young adults. It is usually unilateral in occurrence without bony erosion. We report a unilateral antrochoanal polyp of left side, in 45 year old female, extending into nasopharynx, right sided nasal cavity, protruding out through left nostril and causing bony erosion of medial wall of maxilla on left side.

Keywords: Antrochoanal polyp, Bony erosion, Endoscopic sinus surgery

INTRODUCTION

Antrochoanal polyps mostly from the maxillary antrum and rarely from the sphenoid sinus. Antrochoanal polyps originate from the inner wall of the maxillary sinus and during their growth, rarely pass through natural sinus ostium. Killian was first to describe the disease in detailin 1906.[1] Stammberger found that antrochoanal polyp left the sinus through an accessory ostium in 70% of cases.[2] These polyps represent 4-6% of all nasal polyps. However, in children number can rise upto 33%.[3,4] They are often unilateral but may be bilateral on rare occasions.[5]

CASE REPORT

A 45 year old female patient presented to us with history of nasal obstruction for last 6 months, initially left sided, then slowly progressed to involve right side for 4 months. She also gave history of mucoid nasal discharge, obstructive sleep apnea and nasal mass protruding out about 5 cm through left nostril, for which patient usually wears mask to hide this, with spontaneous shedding of pieces of mass occasionally. There was no history of epistaxis, visual disturbances and post nasal drip. On anterior rhinoscopy, polyp was seen protruding out through left nostril which was pale insensitive polyp, which did not bleed on touch. Right sided examination revealed septal deviation with similar polyp on right side (Figure 1). Posterior rhinoscopy showed mass filling nasopharynx obstructing the view of the choanae.

Non-constrat computerized tomography of nose and paranasal sinuses showed soft tissue density in left maxillary antrum, bilateral nasal cavities, nasopharynx and extending out through left nostril. There is deviation of septum to right side with bony destruction of medial wall of left maxilla (Figure 2).

Biopsy of nasal mass was taken. On histopathological examination, revealed benign lesion. A diagnosis of left antrochoanal polyp was made. Pateint was planned for

endoscopic sinus surgery under general anaesthesia. Microdebrider was used to remove left nasal polyp protruding out through nasal cavity. After that uncinectomy was done and remaining part of polyp removed from left maxillary antrum. Remaining part was then pushed posteriorly into nasopharynx and delivered via oral cavity. This brought along with it polyp from right side and it was seen to arise from left sided polyp extending into nasopharynx and then into right sided nasal cavity. Tissue was sent for histopathological examination. On histopathological examination, structure of a nasal polyp lined by pseudostratified ciliated columnar epithelium with focal surface ulceration. The stroma showed clusters of dilated congested thin walled capillary type blood vessels, few of ectatic vessels show fibrinoid necrosis of wall and intraluminal fibrin thrombi (Figure 3).

Figure 1: 45 year old female with polyp in left nasal cavity.

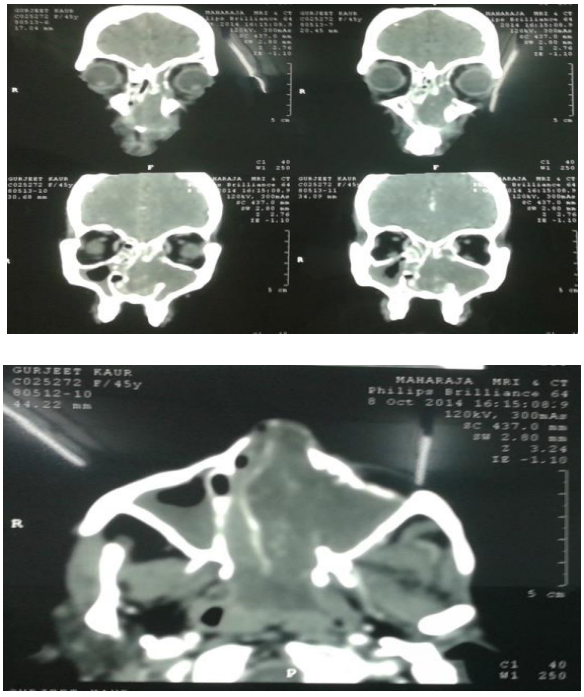

Figure 2: Coronal and axial scans showing soft tissue mass in b/l nasal cavities with bony erosion.

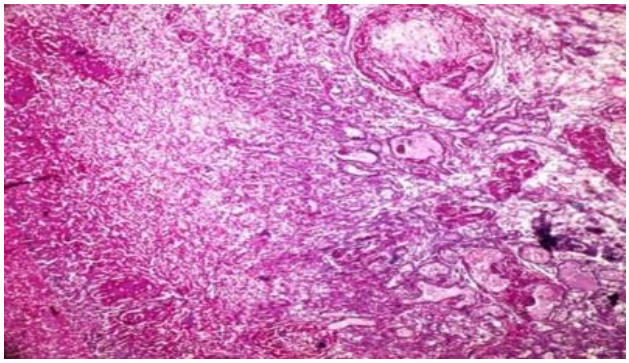

Figure 3: Clusters of dilated congested thin walled capillary type blood vessels, few of ectatic vessels show fibrinoid necrosis of wall and intraluminal fibrin thrombi.

DISCUSSION

It is a benign, unilateral disease, which starts on floor of the maxillary sinus and migrates towards nasal cavity and nasopharynx. Clinical manifestations usually start with unilateral nasal obstruction, although there are reports of cases starting with epistaxis, purulent discharge, polyp strangulation, spontaneous amputation, dyspnoea and dysphagia, obstructive sleep apnoea and rhinophonia.[6] The tissue of choanal polyps has a different inflammatory mediator profile in comparison to inflammatory nasal polyps. In contrast to nasal polyposis, choanal polyps lack eosinophils. Corresponding to this, Rudack et al did not detect elevated interleukin-5 (IL-5) protein concentrations in tissue homogenates of antrochoanal polyps but a significantly increased level of IL-6 compared to control mucosa of the inferior turbinate.[7] This different mediator profile is maybe associated with the different level of protective mucosal mechanisms against bacterial colonisation and infection. Preliminary results presented by Mladina et al showed that signs of the presence of bacterial biofilm were found in all patients with nasal polyposis.[8] In cases with antrochoanal polyps, biofilm formation was found in the stalk and nasal part of the antrochoanal polyps, whereas there were no signs of biofilm on the diseased mucosa of the antral part. These findings are in accordance with the results of a study conducted by Honkanen et al.[9] They found a higher level of epithelial and leucocyte expression of indoleamine 2,3-dioxigenase (IDO), an intracellular enzyme with strong antimicrobial activity, in tissue specimens of inflammatory nasal polyps than in antrochoanal polyp tissue. One of the main characteristics of antrochoanal polyps is the tendency for rapid growth, resulting in their impressive dimensions. Mahfouz et al. [10] showed that the expression of basic fibroblast growth factor (bFGF) and transforming growth factor beta (TGF-ß) was significantly higher in tissue of antrochoanal polyps than in nasal polyposis and healthy mucosa. Increased expression of bFGF was detected in fibroblasts, blood vessel endothelial cells, basement membrane, basal epithelial cells, and inflammatory cells. Therefore, antrochoanal polyps may represent an inflammatory

reaction caused by overproduction of tissue-derived growth factors in an inductive environment.

It is hypothesized that vascular compromise causes initial vascular dilatation/ectasia, extravascular edema and possibly infarction followed by reactive and reparative changes with neo-vascularisation, setting the stage for continuing development of polyp, repeated vascular occlusion and further infarction. Resulting hemodynamic condition predisposes the patient to extensive extravasation of blood components (fibrin & platelets) through thin walled capillary - like blood vessels resulting in areas of hemorrhage and accumulation of large perivascular pools of amorphous congo- red negative eosinophilic material. Predominant features of infarcted polyps are clusters of ectatic blood vessels surrounded by abundant fibrin-like eosinophilic extracellular material and superimposed fibrinoid necrosis, luminal thrombosis of ectatic blood vessels.[11] These polyps can grow rapidly, causing bone erosion that could simulate malignancy preoperatively. The treatment options for this benign disease have also been constantly under scanner. Many surgeons are conservative in their management of antrochoanal polypin children under 8 years of age. Removal of antrochoanal polyp in adults by endoscopic sinus surgery has emerged as a safe and effective procedure. Even in pediatric population, most surgeons now prefer the use of endoscopes and the recent literature shows it to be a safe and effective method.[12]

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CONCLUSION

In this paper, Authors have described a case of large unilateral antrochoanal polyp with bilateral extension and bony erosion, may be due to angiectatic changes but having benign histopathological features. In giant polyps, endoscopic approach should be associated with trans-oral excision.

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