



CASE REPORT

Antrochoanal Polyp

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ABSTRACT

Background: Antrochoanal polyp (ACP) is a benign solitary polypoidal rare lesion which most commonly arises in maxillary sinus. It appears radiographically as an opacifying and enlarging lesion in the sinus cavity without bony destruction.

Case report: The article presents a case of ACP occurring in a young child, while describing the radiological features of the lesion as seen in computed tomography (CT), orthopantomograph (OPG) and in the paranasal sinus (PNS) view and attempts to briefly review this rare lesion.

Conclusion: Children presenting with unilateral sinus pain and nasal blockage should be suspected of suffering from ACP. Dentist should be aware of the radiological features of the disease especially in pediatric patients. It is important for the dentist to recognize this rare disease so that appropriate timely treatment can be initiated.

Keywords: Antrochoanal polyp, Computed tomography, Nasal polyps.

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INTRODUCTION

Nasal polyps originating from the maxillary antrum with the pedicle attached to the inner wall of the maxillary sinus, emerging from the natural (or the accessory) ostium and extending to the choanae and the nasopharynx through the nasal cavity are known as antrochoanal polyps (ACP). The thickened mucosa of chronically inflamed sinus frequently form irregular folds called as polyps.¹ This soft tissue mass does not erode or destroy contiguous soft tissue or bony structures.^{2,3}

Antrochoanal polyps are commonly unilateral and macroscopically identical to typical nasal polyps, but are not associated with an allergic etiology.^{1,3} However, the majority of the patients have sinonasal disease.³ Most

of the patients are young, nonatopic and usually under 30 years of age.¹ However, Chen et al and Cook et al observed allergic etiologies in 50 and 69% of their respective patients with ACP.⁴ Antrochoanal polyps represent approximately 4–6% and 33% of all nasal polyps in the general and pediatric population respectively.^{5,6} The ACP is infrequent than benign inflammatory or allergic polyp in the nasal fossa and paranasal sinuses.² Maxillary sinus is more involved as compared to other sinus.^{7,8}

Unilateral or bilateral nasal obstruction, headache, retronasal secretion, nausea, epistaxis, anosmia, dysphagia, snoring, sleep disturbances, purulent rhinorrhea, dyspnea, halitosis, mouth breathing, dysphonia, nasal pruritus, cachexia occur in these patients.^{1,7,9}

Radiographically opacification/haziness, mucoperiosteal thickening and enlargement of the maxillary antrum are frequently seen in paranasal sinus (PNS) water's view. The diagnosis of ACP is strongly suggested when an opacified maxillary antrum is expanded and there is a nasopharyngeal mass.^{2,8} The present article describes a case of ACP which occurred in a young child and attempts to briefly review this lesion.

CASE REPORT

A 9 years old male patient reported with a chief complaint of difficulty in breathing, not associated with exertion, spontaneous and continuous in nature since 8 months. The patient visited the dental hospital to rule out dental causes on referral from his last physician. No history of allergy or nasal bleeding. History of change in his voice, gradual bending of nasal septum to left, recurrent pain in right middle face, headache and mucous discharge since past 1 year. Patient reported occasional pain in the right upper back region teeth on chewing food. Symptoms were insidious and gradual in onset. Pain sometimes aggravates on bending of head and there was no numbness. Patient was previously on numerous antibiotics, decongestants and intranasal sprays. Allergic and vasomotor diathesis was absent and there was no history of surgery for nasosinus disease. Hemogram, such as full blood counts and serum immunoglobulin levels were normal in the patient.

Extraoral examination revealed significant deviation of nasal septum to left. Face was symmetrical bilaterally. Flaring of right alae of nose was seen with no visible nasal discharge. Tenderness at the area of maxillary, ethmoidal

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and frontal sinuses on right side was elicited. Crepitation was absent. Intraoral examination revealed dental caries with 75, 85.

Computed tomography (CT) scan, orthopantomogram (OPG) and PNS view were advised. Computed tomography showed well-defined soft tissue density lesion in right maxillary sinus with no calcifications. The lesion extended through the right osteomeatal complex and from nasal cavity into the nasopharynx through the posterior choana. There was mucosal thickening in the left maxillary and sphenoidal sinuses. Nasal septum was deviated to left (Figs 1 and 2). Orthopantomogram

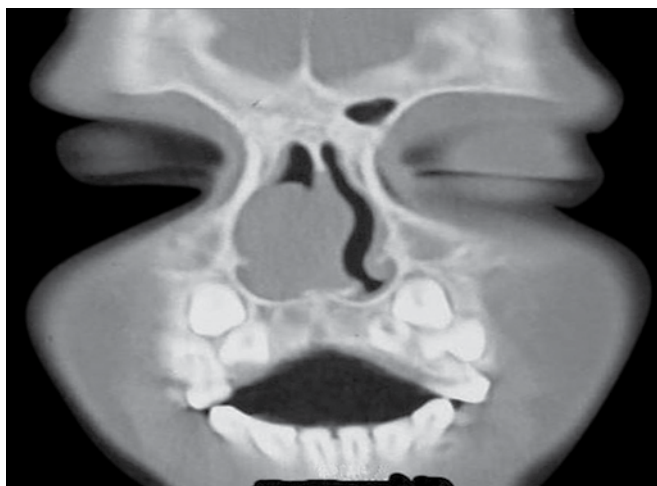


Fig. 1: Computed tomography shows hypodense mass filling the slightly enlarged right maxillary sinus and extending into posterior chonae. Also seen is the thickening of mucosal lining of left maxillary sinus

showed radiopacity filling the right maxillary sinus (Fig. 3). Paranasal sinus view showed hazy radiopaqueness filling the right nasal cavity and deviation of nasal septum to left (Fig. 4). A diagnosis of ACP was arrived and dental causes ruled out. The patient was referred to a competent ENT surgeon for further assessment and appropriate treatment. The patient was contacted after 3 months and the histopathology diagnosis report confirmed the case as ACP with features of an inflammatory polyp.

DISCUSSION

Antrochoanal polyps usually have two components: The cystic and solid polypoid parts. The cystic component originates from the posterior, inferior, lateral or medial walls of the maxillary antrum, and it attaches to the solid polyp with a pedicle in the nasal cavity. Decreased lipoxigenase pathway products, role of urokinase-type plasminogen activator and plasminogen activator inhibitor-I has been implicated in the pathogenesis of ACP.^{3-5,10} Although it occurs unilaterally, rarest bilateral cases are also reported.^{8,10} Anterior rhinoscopy usually reveals an intranasal polypoidal mass. A larger polyp may be seen by posterior rhinoscopy or in the mouth.^{3,10} Antrochoanal polyps typically appear as a smooth, grayish, bluish, yellowish or pale/bright mass on nasal endoscopy.^{1,3,10} Unlike other nasal polyps, they usually have a narrow stalk arising from the maxillary sinus. When the polyp is bulky there will be relevant nasal septum deviation.⁷

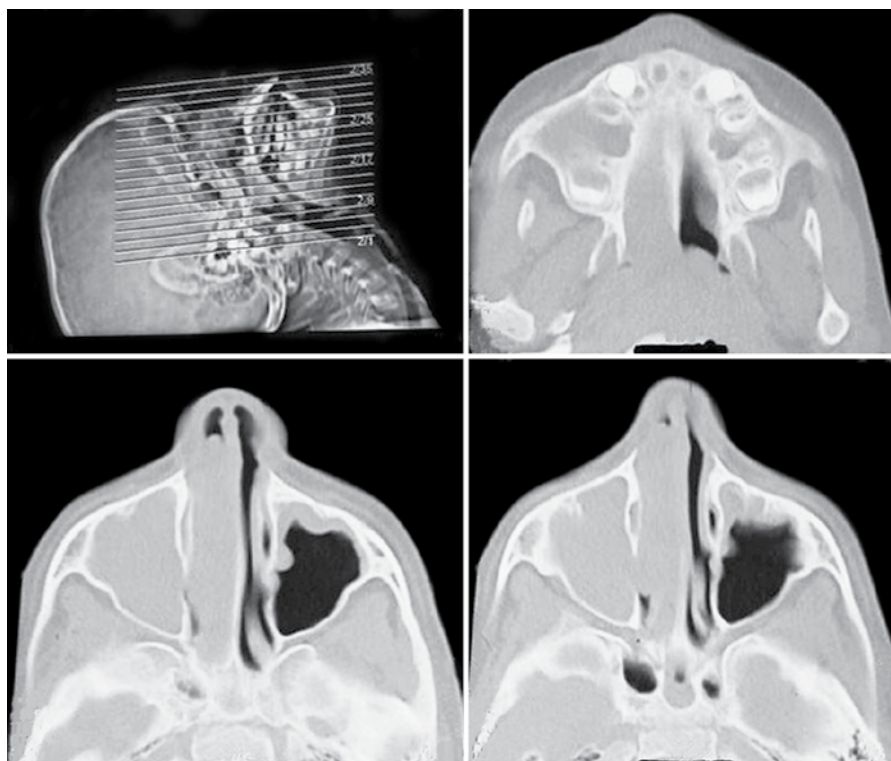


Fig. 2: Hypodense mass filling the right nasal cavity and also there is deviation of nasal septum to contralateral side



Fig. 3: Orthopantomogram shows hazzy opaqueness filling the right maxillary sinus. Also noted is contralateral deviation of nasal septum and soft tissue mass filling the right nasal cavity



Fig. 4: Paranasal sinus view shows haziness in the maxillary sinuses and right nasal cavity and deviation of nasal septum to left

Clinical manifestations usually start with unilateral nasal obstruction as seen in our patient.⁷ Inflammatory nasal polyposis in contrast with ACP presents much later in life, being very rare in children.⁹ In childhood, the differential diagnosis should include mucocoeles and mucopyocoeles. Other less frequent differential diagnoses are adenoid and turbinate hypertrophy, ethmoidochoanal polyp, Tornwaldt cyst, olfactory neuroblastoma, hemangioma, inverted papilloma, meningoencephalocele, cystic fibrosis and allergic fungal sinusitis.^{1,3,5,7,9} Angiofibroma must be excluded in pediatric male patients and malignancy in adult patients.^{4,6}

Nasal endoscopy, computed tomography and magnetic resonance are the main diagnostic techniques.⁹ Full blood count with differential white cell count, serum immunoglobulins, sweat chloride test should be investigated. Cystic fibrosis can be ruled out by pilocarpine-induced sweat test.⁸ Computed tomography scan reveals homogeneous filling and opacity in the maxillary sinus cavity, of the ipsilateral nasal cavity and, eventually, involving the cavum, a nasal wall deviation, especially that of the nasal septum to contralateral side; however, without bone destruction. It further shows the extension of the soft tissue hypodense mass into the nasal cavity and posteriorly toward the choana. Computed tomography also helps in treatment planning and is considered the best imaging for ACPs.^{3,6-8} Magnetic resonance imaging shows T1 hypointense and T2 enhanced signals in sinochoanal polyps. The cystic part of ACPs is enhanced in the peripheral area when intravenous gadolinium is administered.^{3,9}

Surgery is accepted treatment for ACP. Endoscopic resection, endoscopic microsurgery, functional endoscopic sinus surgery (FESS), use of microdebriders are the most recommended.^{3,9} Caldwell-Luc operation is indicated only in recurrent cases. Medical therapy in the form of

either inhaled or systemic steroids are used to reduce the size of small nasal polyps and prophylactically to prevent the recurrence of nasal polyps after surgical therapy.⁴

CONCLUSION

The ACP is a unilateral nasal mass occurring in children and younger adults. It should be considered in the differential diagnosis for children with nasal obstruction and a nasal mass. Dentists should be aware of this rare disease particularly in pediatric patients. Radiological features of this disease are characteristic and timely diagnosis by the dentist can help in prevention, early intervention and treatment of this rare disease.

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