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A Case Series of Isolated Sphenoidal Polyp in Paediatric age group

Dr.D.Vijay babu [1], Dr. M.Elanchezhian[2]
[1](*Assistant Professor, Department of ENT, Govt. Madurai Medical College &Hospital, Tamilnadu Dr.M.G.R Medical University, India)*
[2](*Associate Professor, Department of ENT, Govt. Tiruvannamalai Medical College &Hospital, Tamilnadu Dr.M.G.R Medical University, India)*

A B S T R A C T
Sinonasal polyp in children usually arise from maxillary sinus which enter choana to become antrochoanal polyp. It is rare to find isolated sphenoidal or sphenochoanal polyp in paediatric population. CT or MRI scan of paranasal sinuses will be needed to confirm the diagnosis. Endoscopic sinus surgery is the only modality of treatment as sphenoidal polyp is usually unresponsive to medical management. We present a case series of sphenoidal polyp in paediatric age group.
Keywords: *Paediatric Sinonasal polyposis, Endoscopic sinus surgery, Sphenochoanal polyp, Sphenoidal sinusotomy*

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I. Introduction

Sinonasal polyps are benign tumours which arise from paranasal sinus and enter nasal cavity through the drainage pathway of sinuses. Polyps in paediatric population are usually seen arising from maxillary sinus due to infection. Polyp from sphenoid or ethmoid sinus are rare in children. Children usually present with nasal block and are often treated for upper respiratory tract infection. The polyp enlarges to enter the choana and occupies nasopharynx. They usually have a sinus part, a nasal part and a choanal one. Antrochoanal polyps constitute 3–6% of all polyps. Very rarely it may be seen arising from sphenoid sinus [1,2]. We present a case series of rare isolated sphenoidal polyp in children which was excised in toto by endoscopic sinus surgery [3] .

II. Procedure

This research article involves three cases of isolated sphenoidal polyp in children of ages 7-11 years with classical history of nasal obstruction and headache. All three children were diagnosed and operated in tertiary care hospital between June 2019 and January 2021.In two children aged 8 and 11 years, it was initially unilateral which progressed to bilateral nasal block. One child aged 7 years presented with unilateral nasal block. History of snoring and mouth breathing for the past few months was present. There was no history of frequent sneezing or post nasal drip. There was no vision disturbance, epistaxis or altered sense of smell in all children. On examination of nose, the external contour was normal. On anterior rhinoscopy, a pale greyish white polypoidal mass was seen in the nasal cavity medial to middle turbinate in all three children. It was insensitive and did not bleed on probing. Computed tomography of the paranasal sinuses in two patients revealed a well-defined homogenous opacity involving sphenoid sinus, Sphenoethmoidal recess and choana occupying part of nasopharynx. (Fig. 1). MRI was taken to exclude meningoencephalocele for both patients. MRI reconfirmed the diagnosis of Sphenochoanal polyp. In one child, polyp was confined to Sphenoethmoidal recess. All patients were taken up for endoscopic polypectomy and sphenoidal sinusotomy under general anaesthesia. The polyp was seen arising from the sphenoid sinus. Sphenoidotomy was done by widening the natural ostium and the polyp was excised in toto and delivered through the oral cavity (Fig. 2). The sphenoid sinus was examined using angled endoscopes and it was found clear devoid of any remnants or bony dehiscence (Fig. 3). Merocel packing was done in involved nasal cavity which was removed after 24 hours. Specimen was sent for histopathological examination and fungal culture. Culture didn't identify any fungal elements in all three cases. Histopathology revealed an inflammatory polyp in all patients. Postoperative period was uneventful. The children are on regular follow up. There is no recurrence of nasal symptoms or polyp till date.

III. Discussion

Polyp in Sphenoid sinus is often found associated with polyps in other sinuses. Secondary sinusitis of sphenoid sinus due to ethmoidal polyposis is the usual finding. Invasive fungal sinusitis in sphenoid often to leads to visual disturbances. Isolated sphenoid inflammatory polyp is a rare entity. Its incidence in paediatric population is even more rare [1,2] . They are differentiated from other Sinonasal polyposis only by radiological investigations [4,5]. Though allergy is found associated with it in few studies, exact aetiology of isolated sphenoidal or Sphenochoanal polyp is still unidentified. Study by Berg et al [6] suspects polyp to arise from an intramural cyst in the sinus. The differential diagnosis includes Adenoid hypertrophy, Meningoencephalocele, Juvenile Angiofibroma, Inverted papilloma and Hemangioma [7] . They usually present as unilateral nasal obstruction, nasal discharge, snoring, mass behind uvula, mouth breathing and sometimes for poor concentration and irritability also[8] . Nasal endoscopy can be attempted in older children which reveals the polyp medial to middle turbinate entering the choana [9]. CT Scan of Paranasal sinuses helps in identifying the site of origin, extent and the presence of any bony dehiscence. It is advisable to do MRI also to exclude Meningoencephalocele. Vision test should be done and should be properly documented before surgery. Sphenochoanal polyps are treated by Functional Endoscopic Sinus Surgery where Sphenoid ostium is widened medially and inferiorly after polypectomy [10,11]. The sinus should be examined using angled rigid endoscopes to ensure complete removal.

IV. Conclusion

High clinical suspicion is required to diagnose sphenochoanal polyps. Choanal polyps should be suspected in all paediatric patients with progressive unilateral nasal obstruction. Sphenoidal or Sphenochoanal polyp is a rare form of Sinonasal polyposis. Radiological examination confirms the diagnosis. Delayed diagnosis often leads to obstructive sleep apnoea and poor school performance. Paediatricians and general physicians should be sensitised for early referral of such children.

Fig. 1 CT scan showing Sphenochoanal polyp

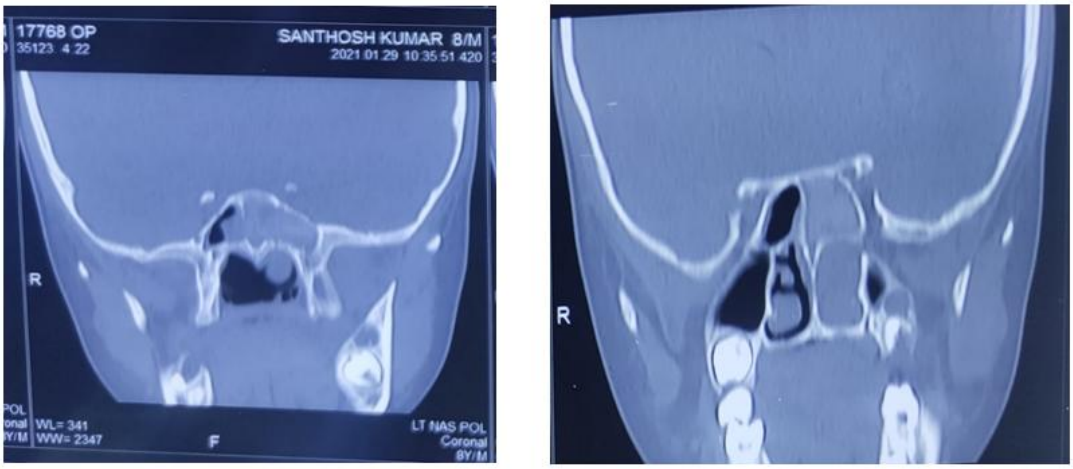

Fig. 2 showing Sphenochoanal polyp with excised remnants

Fig. 3 showing widened Sphenoid Ostium after polyp excision

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