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Dates: Received: 18 September, 2017; Accepted: 23 September, 2017; Published: 25 September, 2017

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Keywords: Antrochoanal polyp; Endoscopic sinus surgery; Caldwell-Luc operation

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Case Report

Giant antrochoanal polyp presenting as oropharyngeal mass

Abstract

Antrochoanal polyps are benign mucosal lesions emerging from the maxillary sinus. The primary symptoms are nasal obstruction and rhinorrhea. Endoscopic and radiological appearance of the disease is typical. These polyps are usually presented unilaterally, although bilateral presentation is also possible. In this paper, we report a case of atypically giant antrochoanal polyp in a 13-year-old child. The patient's primary complaint was a sensation of lump in her throat. The examination revealed a mass behind soft palate. The excised polyp had the histological characteristic of an angiomatous antrochoanal polyp. Because of the unusual dimension, the combined transoral and endonasal endoscopic approach was performed for complete polyp excision. We discussed the clinical, histopathological and immunohistochemical characteristics of choanal polyps in comparison to inflammatory nasal polyps, and the applicable surgical techniques for treatment of these polyps.

Introduction

Antrochoanal polyps (ACP) originate from the mucosa of maxillary antrum and enlarge through the ethmoidal infundibulum or an accessory opening in the medial wall of the maxillary sinus into the nasal cavity and gradually prolapse towards nasopharynx. Killian described this disease in detail in 1906 [1]. Stammberger found that antrochoanal polyps left the sinus through an accessory ostium in 70% of the cases [2]. Maxillary antrum is the most common site of origin of choanal polyps. Other sites of origin are the sphenoid, ethmoid, septum, and inferior turbinates [3,4]. These polyps represent 4–6 % of all nasal polyps [3]. Clinically, choanal polyps usually manifest as nasal obstruction, however, epistaxis, rhinophonia, purulent discharge, spontaneous amputation are also reported [4,5]. They are often unilateral but may be bilateral on rare occasions [3,4]. In this paper, we report a case of unusually giant antrochoanal polyp which presents as a large oropharyngeal mass.

Case report

A 13 year old girl admitted to our clinic with a history of nasal obstruction, rhinophonia, sensation of foreign body in the throat, snoring and weight loss. The patient had cachectic appearance but defined no other health problems. Physical examination revealed that huge mass hanging from the nasopharynx into the oropharynx and the mass was dislocating the soft palate anteriorly (Figure 1). The mass has smooth surface and could be mobile when touched by a suction. Nasal

endoscopy showed that the mass arose from the left maxillary antrum and extending into nasopharynx and oropharynx.

The patient was operated under general anesthesia. We removed the pharyngeal part of the polyp by transoral approach. Then, we performed combined endoscopic sinus surgery (ESS), mini Caldwell Luc approach and transcanine sinuscopy. All of the cystic part was removed through the anterior antral window and transcanine endoscopy was performed to check if there was a residual tissue inside the maxillary antrum.

MR imaging demonstrated that the mass was obliterating the left maxillary sinus and expanding into the nasopharynx and orophaynx. The mass was also obstructing the air passage and approaching the epiglottis (Figure 2, 3). The histologic diagnosis was consistent with a benign inflammatory polyp.



Figure 1: Appearance of the pharyngeal part of the giant antrochoanal polyp.



Figure 2: Maxillary part of the polyp.



Figure 3: Oropharyngeal part of the polyp.

Discussion

Antrochoanal polyps are benign sinonasal masses which can present with a number of symptoms. Orvidas et al. [6], noted nasal obstruction (100%), rhinorrhea (48%), snoring (36%) and mouth breathing (32%) in their patients with ACP. Besides, obstructive sleep apnea and cachexia due to ACP have been reported in the literature [7]. Etiology of the antrochoanal polyps is still not fully introduced. Chronic rhinosinusitis and allergy have been believed to involve in the disease process [3,5]. A current study finding showed that chronic sinusitis was associated with ACP in 65% of the pediatric patients [3]. Similarly, some authors have also advocated that there is an association of ACPs with allergic disease [5]. Cook et al. [5], studied 33 patients with ACP and diagnosed concomitant allergic rhinitis and this association was found to be statistically significant. However, some other authors have found no association between allergy and ACPs [8,9]. Sunagawa et al. [10], demonstrated the possible role of urokinase-type plasminogen activator and inhibitor in the pathogenesis of ACPs in their study.

Antrochoanal polyps are usually composed of a cystic part filling the maxillary sinus and a solid part coming out through the natural or accessory maxillary ostium into the middle meatus then to the choana hence the treatment options have to focus on removing the both parts. The treatment of ACP is always surgical. Simple polypectomy and a CaldwellLuc

procedure were the previously preferred methods for surgically treating ACPs. In recent years, endoscopic sinus surgery (ESS) become the more preferable surgical technique. All surgeries should intend the complete removal of the ACPs to avoid future recurrences. Probability of recurrence is high after insufficient resection of the polyp. The Caldwell-Luc procedure gives good exposure for complete removal of the antral part of the polyp. But this procedure may have possible complications, including cheek anesthesia, cheek swelling and injury of the infraorbital nerve, and it carries the risk of damaging the growing teeth and the growth centers of the maxilla in children [11-13]. The endoscopic technique is favored recently, due to the advantages of reduced operating time and hospital stay, and reduced morbidity [11]. However, the main outcome measure to evaluate the success is related to the frequency of recurrence, and therefore the need for further revision surgery. Cook et al. [5], observed no recurrences for 33 patients with ACPs after ESS. Ozer et al. [14], performed ESS, combined ESS and transcanine sinuscopy or the Caldwell Luc approach for the treatment of ACPs. They found recurrence in 3 patients after ESS, yet they found no recurrence after combined ESS and transcanine sinuscopy or the Caldwell Luc approach [14]. Atighechi et al. [15], performed a mini-Caldwell procedure with ESS in their patients. They reported the technique showed minimal recurrence and a low complication rate, and so the technique is useful to completely remove ACPs. Lee and Huang [3], reported that success rate of the transnasal endoscopic approach and the combined endoscopic and transcanine approach as 76.9% and 100%, respectively. Therefore, our preference for surgical method was combined mini Caldwell Luc and ESS technique to pretend recurrence. We also performed transoral way to remove the pharyngeal portion of the ACP. Endoscopic procedure for intranasal portion, mini Caldwell Luc antrostomy for antral portion and transoral way for pharyngeal portion should be used for giant antrochoanal polyps.

Conclusion

Giant antrochoanal polyps, although rare, should be operated by combining three different approaches at one time to pretend recurrence and complete resection.

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