Antrochoanal Polyp, Role of Endonasal Endoscopic Sinus Surgery- Experience at Mayo Hospital Lahore

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ABSTRACT

Objective: To evaluate the effectiveness of endoscopic excision of the antrochoanal polyp and its role in decreasing the recurrence rate.
Design: Retrospective.
Methods : Medical records of sixty patients with antrochoanal polyp (ACP) diagnosed and treated at Mayo Hospital Lahore between March 2001-September 2004 were retrospectively studied.
Results: Out of sixty patients,42 were male and their ages ranged from 6 to 45 years with a mean age of 17.37 years. Nasal obstruction was the most common presenting symptom. Endoscopic endonasal removal of ACP was performed in all 51 patients as primary surgery. Revision endoscopic removal was done in nine patients. All candidates had follow up from nine to 42 months with mean average time of 24 months. Recurrence was confirmed in three patients after primary surgery and in none after revision surgery.
Conclusion: Endoscopic approach compared to previous modalities of treatment has the capability to ensure complete removal of the ACP and decrease its rate of recurrence.
Keywords: Antrochoanal polyp, endoscopic excision, recurrence

INTRODUCTION

Antrochoanal polyp was described by Professor Gustav Killian, in 1906[1]. Antrochoanal polyp (ACP) is a benign lesion[2]. It has a characteristic dumbell shape originating from the mucosa of the maxillary sinus, herinates through the accessory ostium[3], into the middle meatus and, thereafter, protruding posteriorly to the choana (Figure 1) and nasopharynx (Figure 2). It represents 4-6% of all nasal polyps in the general population[4,5,6] However, it shows a much higher prevalence in pediatric population[7,8.] One third of all nasal polyps in children are ACP. [7] In ACP, the male/female ratio is 2:1[9].

Figure 1:

Figure 2:

Figure 3

Incomplete excision of antrochoanal polyp almost always leads to recurrence[10]. Nasal endoscop (Figure 1) and computed tomography (CT) represent (Figure 3) the golden standard in the diagnosis of ACP. During nasal anterior rhinoscopy or nasal endoscopy, ACP appears as a bright, white, mass in the middle meatus and nasal cavity, with a stalk rising to the accessory ostium and sometimes, during the examination of the oral cavity, as a white egg shape mass behind the uvula. By using CT, the diagnosis of ACP is made when a mass fills the maxillary sinus growing through the accessory or natural ostium into the middle meatus and the posterior choana[11]. Surgery remains the mainstay of treatment and the endoscopic approach should be used in first intention[12]. Several surgical techniques have been described in the literature. Functional endoscopic sinus surgery (FESS) is, currently, the gold standard technique[13]. Endoscopic approach for complete removal of the CPs is an extremely safe and effective procedure. It should be focused on the detection of the exact origin and the extent of the polyp to prevent recurrence[14]. Endoscopic sinus surgery proved an ideal approach for antrochoanal polyps as it enables complete removal of the antral portion of the polyp, and simultaneous intervention to other sinus diseases[15].

PATIENTS AND METHODS

This retrospective study included sixty patients (42 male and 18 female; age range 6 - 45 years; mean age 17.37 years) who were diagnosed to have ACP, treated and observed at follow-up at the ENT Department of the Mayo Hospital Lahore, Pakistan during the period from March 2001-September 2004 . The patients operated on for ACP and all candidates had follow up from nine to 42 months with mean average time of 24 months. All the patients suspected having ACP coming to outpatient clinic of our department were included in the study, irrespective of age and gender. A detailed history was taken and thorough ear, nose and throat examination was done. All the patients underwent preoperative CT Scan in both coronal and axial planes After confirmation ACP were removed endoscopically. The success of the surgery was judged primarily by the recurrence rate and the treatment morbidity.

RESULTS

Out of sixty patients, 42(70%) were male thus a male preponderance. and their ages ranged from 6 - 45 years with a mean age of 17.37. A left-sided ACP was found in 47(78%) patients while a right-sided ACP was seen in 13(22%) cases. All the patients had non-contrast coronal and axial CT scan of the paranasal sinuses. This usually showed an unilateral opacity involving the maxillary sinus sometimes extending into the nasal cavity and nasopharynx. Endoscopic transnasal removal of A C P was performed in 51 patients as primary surgery. Revision endoscopic removal was done in 9 patients. No major complications occurred. All candidates had follow up from nine to 42 months with mean average time of 24 months. Recurrence was confirmed in 3(5%) patients after primary surgery and in non patient after revision surgery.

DISCUSSION

In our study, 75% of ACP occurred in paediatric age group which is similar to that reported by Schramm [7,8] and left-sided ACP's were more common than right-sided (73.3 versus 26.7%)[7]. Historically, surgical approach for ACP involved two different modalities, simple avulsion of the ACP and the Caldwell-Luc approach. Recently, endoscopic removal of ACP has become the surgical approach of choice. The endoscopic nasal approach is a surgical option for resection of the polyp implantation through the maxillary ostium or middle meatal antrostomy, with lower morbidity when compared to other surgical approaches[10]. It is less harmful and has short recovery time[17]. In capable hands, the safety of the endoscopic approach in children is well established[18]. It is generally recommended that the antral portion of ACP should be removed along with the base to decrease the chances of a recurrence[19]. The ability of the endoscopic approach to remove the antral part completely renders this technique an effective and safe method of managing ACP. This has been confirmed in two separate studies[20,21]. Successful outcome of the endoscopic removal of ACP means that there should not be any cases of recurrence. [21] Sixty patients underwent endoscopic removal of ACP and three (5%) patients had recurrence in an average time of 24 months after surgery The rate of recurrence obtained in our study is no different from literature data. [16] Simple avulsion of the polyp has a high rate of recurrence, whereas the Caldwell-Luc procedure is associated with damage of the maxillary and dental growth centres.[22] This confirms the successful out come of this approach as has been done in a previous study.[19] Endoscopic sinus surgery may be indicated in patients with ACPs because the function and capacity of the maxillary antrum are preserved[23]. Endoscopic approach for choanal polyps can be applied at all ages and it is associated with low morbidity[24].

CONCLUSION

Endoscopic approach as compared to previous modalities of treatment has the capability to ensure complete removal of ACP and decrease rate of recurrence and is associated with low morbidity.

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