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TREATMENT OF ANTROCHOANAL
POLYP. (PROBLEMS & PITFALLS)
A PROSPECTIVE STUDY

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ENDOSCOPIC POLYPECTOMY WITH MIDDLE MEATAL ANTROSTOMY AS STANDARD TECHNIQUE FOR TREATMENT OF ANTRACHONAL POLYP. (PROBLEMS & PITFALLS) A PROSPECTIVE STUDY

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Abstract

Antrchoanal polyp is a benign non-atopic lesion of the maxillary sinus that represent approximately 4 to 6 percent of nasal polyps in general population. The common symptom is nasal obstruction due to its growth through the sinus ostium into the nasal cavity towards the choanal.

Surgery is the only feasible treatment, and many surgical approaches are known as modalities of treatment, one of which is endoscopic nasal approach which associated with lower morbidity. Aim: To assess the effectiveness of endoscopic sinus surgery in the treatment of antrchoanal polyp.

Materials and Methods: A prospective study, 16 patients, who were diagnosed based on history, physical examination and computed tomography, treated between January 2008 and March 2009 in Benha university hospital. The surgical approach was endoscopic polypectomy with middle meatal antrostomy.

Results: Sixteen patient with antrochoanal polyp ACP, 9 (56%) were females and 7 (44%) males, were included in this study. The main symptoms were nasal obstruction 14 (88%), oral breathing 10 (63%), snoring 8 (50%), rhinorrhea 5 (31%) and heahache 3 (19%), with follow up period 15 months for each patient. Only two patients (13%)
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Presented recurrence. Conclusion: Endoscopic sinus surgery has proved itself as an effective and reliable surgical procedure for the treatment of ACP.

Key Words: Antrochoanal polyp - Endoscopic surgery - Recurrence.

Introduction
Antrochoanal polyp, also known as Killian's polyp is a benign non-atopic lesion, which stem from the maxillary sinus, go through its ostium, most of the antrochoanal polyps grow through an accessory ostium into the nasal cavity, but with time, the tissue between the accessory and the natural ostium is absorbed due to the pressure caused by the polyp and a very large ostium is created (Maldonado et al., 2004).

Antrochoanal polyp is more common in pediatric population, however it may manifest at any age and represent approximately 4 to 6 percent of nasal polyps in general population (Ta-Jen and Shiang, 2006).

Two components of ACP are defined, the solid component grows through the sinus ostium into the nasal cavity towards the choana, that can be large enough to fill the nasopharynx, while cystic component lies in the maxillary sinus (Chung et al., 2002).

The common symptom is unilateral nasal obstruction, but may sometimes (20-25% of cases) be bilateral, depending up on the blockage of the nasopharynx, however epistaxis, excess secretions, post nasal drip, headache, rhinorrhea, sleep disorders and hyposmia may also included (Gendeh et al., 2004).

Presentation at physical examination by anterior rhinoscopy and nasal endoscopy is nasal and/or rhinopharyngeal polypoid mass. After excision of the polyp, it has a peculiar pear-shaped form of which one half is in the antrum and the other in the nose and nasopharynx, thus a maxillary part is distinguished from a nasopharyngeal part (Hong et al., 2001).

Patients and Methods
In this prospective study 16 patients with antrochoanal polyp were enrolled in the study in the period between January 2008 and March 2009. All the cases were primary cases. They were 9 females and 7 males with age ranged from 10 to 50 years. After obtaining fully informed written consent, the patients were subjected to the following:

- Full history taking: Including age, sex, complaint, full history taking.
- Complete clinical examination: Including general and local examination by anterior rhinoscopy examination and rigid endoscopy using rigid Hopkins endoscope of 0 and 30 degree.
- CT for all Cases:
- Other investigations:
These investigations were done according to the patient's clinical data and on the physician's request including plain X-ray chest.
- ECG:
- Laboratory investigations:
They were operated under general anaesthesia. Transnasal approach was preferred for the removal of the nasal part. The antral part, on the other hand, was removed through maxillary sinus
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os tum by using 30° endoscope and angled forceps.

Hematoxylin (H) and eosin (E) stained histological preparations of the surgical specimens were examined to determine the histological characteristics of the ACP.

The post-operative follow up period for the patients was 15 months post-operatively for each patient.

Results
In this study 16 patients with ACP were included, 9 (56%) females and 7 (44%) males, with age varying between 10-50 years (mean age = 23 year). There were 6 cases below the age of 12 year. Of these 16 patients, 4 patients had deviated septum, concha bullosa in 3 cases and the remaining 9 patients had no other anatomical anomalies.

On clinical and endoscopic examination, the solid components of the ACP were found to be in the middle meatus in 4 patients (25%), in nasal cavity in 9 patients (56%) and in nasopharynx in 3 patients (19%).

All the patients were treated with endoscopic sinus surgery under general anaesthesia. Intra-operatively, polyps were found to pass through the accessory ostium in 9 cases (56%), in the remaining 7 cases, polyps were passing through the natural ostium (44%), and the ostia were enlarged. The standard endoscopic sinus procedure was total excision of all components of the polyp, uncinctomy and middle meatal antrostomy by using 30° Hopkins endoscope and polyp components were removed using angled forceps. Associated pathologies like concha bullosa and deviated nasal septum were treated with appropriate surgical procedures.

All surgical specimens and the specimens were confirmed to be benign polyps. In the follow up period, which was 15 months for each case, only 2 patients (13%) had been reported for recurrence after 8 and 11 months postoperatively.

For the revision surgery, endoscopic resection were performed and follow up for another 15 months with no recurrence.

<table>
<thead>
<tr>
<th>Symptom</th>
<th>Number of cases</th>
<th>%</th>
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<tbody>
<tr>
<td>Nasal obstruction</td>
<td>14</td>
<td>88%</td>
</tr>
<tr>
<td>Oral breathing</td>
<td>10</td>
<td>63%</td>
</tr>
<tr>
<td>Snoring</td>
<td>8</td>
<td>50%</td>
</tr>
<tr>
<td>Rhinorrhea</td>
<td>5</td>
<td>31%</td>
</tr>
<tr>
<td>Headache</td>
<td>3</td>
<td>19%</td>
</tr>
</tbody>
</table>

Discussion
Antrochoanal polyp has been defined as a solitary polyp originating from the mucosa of the maxillary sinus protruding in a backward direction into the choana and the nasopharynx. It has two components, one is cystic which frequently completely fills the maxillary sinus, and the other is solid polypoid part, which extends into the middle meatus but there is a controversy concerning the nature of the antral part of the polyp - whether it is cystic or polypoid. El-Guindy and Mansour reported that the antral part was cystic in all cases in their study, including 24 patients (100%). But in Kamel's study it was found to be cystic in five of 22 cases (23%). In this study it was found to be cystic in 11 of 16 cases (69%).

Intra-operatively, polyps were found to pass through the accessory ostium in 9 cases (56%), which is comitant with most authors, as Pinilla et al., study in which intraoperatively polyps were found to pass through the accessory ostium in 67% of the 12 cases.

According to Frosti et al., surgery is the treatment of choice of antrochoanal polyp. The aim of surgery is to make a wide opening in the affected sinus and complete removal of diseased mucosa.

Surgical options for antrochoanal polyps involve four different modes of removal, the first of which is simple avulsion of the polyp alone which has a recurrence rate of up to 25%. It is
Important to identify the origin of the polyp, since the sinus mucosa, it offers a good exposure to remove the polyp's antral portion, however, such technique is associated with a higher risk of injuring the infra-orbital nerve, post operative maxillary edema, and longer hospital stay. Such procedure is not recommended to treat children because it breaks dentition and facial growth.

The third surgical procedure that used in this study in all cases is endoscopic excision of polyp and treatment for obstructed ostio-meatal complex.

Endoscopy is used for resection of the polyp through the maxillary ostium or accessory ostium according to the site of protrusion of the polyp. In our study the sites of origin of polyps were 7 cases from natural ostium and 9 cases from accessory ostium.

After complete removal of the polyp the natural ostium was connected to accessory ostium to create a wide opening ensuring good exploration of sinus cavity, however access makes it difficult to remove the anterior and inferior wall insertions so it may be the explanation of the recurrence of polyp in the 2 cases in our study. Pinilla et al. also studied 12 cases of antrochoanal polyp treated by the endoscopic approach, assessing results and complications. Such author concluded that this approach is efficient and bears little morbidity.

Rugina et al. analysed 19 cases in a retrospective study of antrochoanal polyp by endoscopic middle meatoctomy, reported only one relapse, and concluded that such technique is safe and non-invasive.

Loury et al. assessed 5 cases and endoscopic surgery was an alternative approach to trans-antral approach. In their study, there was only one relapse. Thus, the author believes that trans-antral endoscopic antrochoanal polypectomy is an excellent surgical option, which significantly lower post operative morbidity when compared to the trans-antral approach with similar cure indices. Thus trans-canine sinuscopy has been advocated for the removal of difficult or recurrent polyp as it allows good exploration so it may be considered as the fourth surgical option in treatment of antrochoanal polyp. Stammberg has suggested that trans-canine sinuscopy is rarely indicated in children and do not applied in children under the age of nine because of immature dental development and maxillary sinus pneumatization.

**Conclusion**

Endoscopic sinus surgery provides adequate treatment for antrochoanal polyp. If there is any doubt about total excision, it is possible to combine endoscopic sinus surgery with sinuscopy. So we believe endoscopic sinus surgery has proved itself as an effective and reliable surgical procedure for the treatment of antrochoanal polyp.

References


Hong S. K., Mio Y. O., Kim C.


Endoscopic polypectomy with middle meatal antrostomy as a standard technique for treatment of antrochoanal polyp (problems and pitfalls), a prospective study.

Endoscopic polypectomy with middle meatal antrostomy as a standard technique for treatment of antrochoanal polyp (problems and pitfalls), a prospective study.

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تاريخ النشر: سبتمبر 2010
عدد المجلد رقم 27، العدد 3، الصفحات 277-284
الملخص العربي:

اللحمية الغازية المنعريّة هي أفة جميلة غير أنواعية في الجيب الأنفى الٍوجلئي وتمثل ما يقارب من 4 إلى 6 في المئة من اللحميات الأنفية، العرض الشائع هو انسداد الأنف بسبب نموها من خلال فتحة الجيب في تجويف الأنف نحو المنعري.

تمثل الجراحة العلاج الوحيد المحتمل وتوجد العديد من الطرق الجراحية لعلاجها من بينها الاستئصال بالمنظار الذي يرتبط مع انخفاض معدلات الاعتلال.

الهدف: تقييم فعالية جراحة الجيوب الأنفية بالمنظار في علاج اللحمية الغازية المنعريّة.

المواضيع والأساليب: دراسة مستقبليًة شملت 16 مريضا تم تشخيصهم بناءً على التاريخ الرضاي والفحص الاحتكليكى والأشعة المقطعينية، تم علاجهم في الفترة ما بين يناير 2008 ومارس عام 2009 في مستشفى بنها الجامعي، وكان النهج الجراحي استئصال اللحمية بالمنظار مع فجر الغار في الصمام الأوسط.

النتائج: شملت الدراسة 16 مريضا منهم 9 إناث و7 ذكور، الأعراض الرئيسية كانت انسداد بالأنف في 14 حالة وتنفس بالفم في 10 حالات وشخير في 8 حالات ورشق بالأنف في 5 حالات وصداع في 3 حالات. تم متابعة الحالات لمدة 15 شهرا للكشف المريض، أثبتت اللحمية في حالتين فقط (13%).

الاستنتاج: جراحة مناظير الجيوب الأنفية أثبتت فاعليتها واعتماديتها حكراً، جراحية في علاج اللحمية الغازية المنعريّة.

الملخص الطبي - جامعة بنها
قسم الأنف والأنف والحنجرة

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