



Post Operative Follow Up of Antrochoanal Polyps

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ABSTRACT

Objective. To investigate the length of follow-up needed to detect recurrence of antrochoanal polyps.

Methods. A retrospective investigation was performed on patients who had been operated on with a preoperative diagnosis of antrochoanal polyps in a tertiary hospital from 2010 to 2015.

Results and Discussion. Of the 38 cases of choanal polyps, 27 were adults (71%). The median age was 23.5, ranging from 7 to 64 years old. Eighteen patients were male (47.4%). The origin of choanal polyps was the maxillary antrum in 32 patients. The most common symptom was nasal obstruction (97.4%). There were 5 cases of recurrence of which four were in children. The time for recurrence was 1.2 ± 0.6 years (95% CI 0.51, 1.97).

Conclusion. Follow-up of patients should be for at least 2 years postoperatively in order to detect 95% of recurrence.

KEYWORDS : antrochoanal polyp.

Introduction

The condition of antrochoanal polyps (Killian polyps) is a distinctive clinical disease. It is characterized by polyps originating from the maxillary antrum, which then extend through the natural or accessory ostium into the nasal cavity, choana, and nasopharynx. The maxillary portion is cystic though there are some reports of solid forms (polyps), while nasal and choanal portions are usually solid [1]. Choanal polyps may come from the sphenoid sinus, the nasal septum, and other parts of the nasal cavity [2-4]. Antrochoanal polyps occur as 4-6% of adult polyps [5] and 33% of childhood polyps [6]. The most common presenting symptom is nasal obstruction, either unilateral or bilateral. Other complaints are rhinorrhea, sinusitis, snoring, dysphagia, and so forth. Complete surgical removal of the nasal and antral portion of the polyp is the standard treatment to prevent recurrence. However, in some patients with a small maxillary sinus or in revision cases, the origin of the polyp could not be well identified. This study is to investigate the length of follow-up needed to detect recurrence of polyps in patients.

Materials and Methods

A retrospective investigation was carried out on patients who had been operated on with a preoperative diagnosis of antrochoanal polyps in a tertiary hospital from 2010 to 2015. After excluding 6 cases of inverted papilloma and 1 case of maxillary mucopyocele, 38 cases of patients with choanal polyps were included in this study. Clinical data and operative findings were reviewed, and the latest follow-up data were collected. Delayed diagnosis was defined as treating patients with another diagnosis such as sinusitis or allergic rhinitis for more than 3 visits to the outpatient document without recording incidence of polyps. The treatment of antrochoanal polyps was complete surgical removal with either an endoscopic approach alone or an endoscopic approach combined with the transcanine fossa approach.

Results

Of the 38 cases of choanal polyps, 27 were adults (71%). The median age was 23.5, ranging from 7 to 64 years. Eighteen patients were male (47.4%). There was no statistical difference in the sex of the age groups

Table 1: Patient characteristics according to age group

| | Total (38 patients) | Age <15 years (11 patients) | Age ≥15 years (27 patients) | p value |
|---|---|---|---|--|
| Age (year) Mean ± SD Range | Median 23.5 28.1 ± 16.3 7-64 | 10.7 ± 2.6 7-14 | 35 ± 14 15-64 | |
| Sex Male : female | | 6 : 5 | 12 : 15 | 0.724 |
| Symptoms Nasal obstruction Unilateral Bilateral None Positional change Progression Purulent rhinorrhea Epistaxis Pain Sore throat Delayed diagnosis | 37 (97.4%) 9 (23.7%) 27 (71.1%) 5 (13.2%) 10 (26.3%) 3 (7.9%) 9 (23.7%) | 11 (100%) 7 (63.6%) 4 (36.4%) 0 3 (27.3%) 10 (90.9%) 9 (81.8%) 2 (18.2%) 2 (18.2%) — 1 (9.1%) | 26 (96.3%) 15 (55.6%) 11 (40.7%) 1 (3.7%) 6 (22.2%) 17 (63%) 18 (66.7%) 3 (11.1%) 8 (29.6%) 3 (11.1%) 8 (29.6%) | 1.000 1.000 0.124 0.452 0.615 0.690 0.542 0.237 |
| Follow-up Less than a month Median (year) Range | 7 (18.4%) 1.22 1 day-8 years | 2 (18.2%) 1.24 1 day-7 years | 5 (18.5%) 1.20 1 day-8 years | 0.721 |

| | | | |
|---|--------------|--------------|-------|
| Operation Endoscopic polypectomy Endoscopic removal Combined endoscopic and transcanine fossa | 1 10 — | — 25 2 | |
| Origin Maxillary sinus Sphenoethmoidal recess/superior turbinate | 11 — | 21 6 | |
| Recurrence | 4 (36.4%) | 1 (3.7%) | 0.019 |

The origin of choanal polyps was the maxillary antrum in 32 patients. The other polyps originated from the superior turbinate or sphenoethmoidal recess, totaling 6 adult patients. The most common symptom was nasal obstruction (97.4%), either unilateral (57.9%) or bilateral (39.5%). Positional changing of the obstruction in the supine or lateral decubitus was found in 9 patients (23.7%). Other symptoms were purulent rhinorrhea (71%), pain (26.3%), epistaxis or bloody nasal discharge (13.2%), and sore throat (7.9%). One adult patient who presented with a sore throat and a mass in the oropharynx for 3 days had no nasal obstruction at all. The duration of symptoms ranged from 3 days to 4.5 years, with a median time of 1 year.

Patient characteristics according to age group.

When comparing between age groups, the symptoms showed no significant difference. However, purulent rhinorrhea was more common in children (88.8% compared to 66.7%) and pain was more common in adults (29.6% compared to 18.2%). Delayed diagnosis was more common in adults (29.6%) than in children (9.1%).

The follow-up time ranged from 1 day to 8 years, the median being 1.2 years. Two patients failed to keep appointments for the postoperative care that was scheduled. There were 5 cases of recurrence of which four were in children. The time for recurrence was 1.2 ± 0.6 years (95% CI 0.51, 1.97).

The polyps recurred significantly more in the group of children when compared to that of the adults (p = 0.036).

Table 2: Multivariable odds ratios (OR) and 95% confidence interval (CI) of potential factors affecting recurrence of antrochoanal polyps.

| Parameters | OR | 95% CI | | p value |
|-----------------|-------|--------|-------|---------|
| Young age group | 10.52 | 1.17 | 94.71 | 0.036 |
| Sex | 1.03 | 0.16 | 6.51 | 0.978 |
| Infection | 1.78 | 0.19 | 17.14 | 0.617 |

Multivariable odds ratios (OR) and 95% confidence interval (CI) of potential factors affecting recurrence of antrochoanal polyps.

Discussion

Antrochoanal polyps were found in patients with a wide age range from 5 to 81 years [1, 3, 9]. The patients in this study ranged from 7 to 64 years of age. The median age of 21 years showed that this type of polyp was more common in the younger age group as was found in many previous studies [1, 10–12]. Other studies found that the ACP occurred more commonly in males, but this was not found to be the case in this study. When comparing the clinical presentations and the outcome of treatment in children and adults, there was no statistical significant difference in clinical presentations though infection was more common in the younger age group. The key of successful treatment is complete removal of the polyp from the maxillary origin. The inflammatory mucosa of sinusitis was mentioned as a possible risk of recurrence in some studies as it led to difficulty in identifying the origin in the antrum [9, 13]. The polyps originating from the lateral, anterior, and inferior walls of the maxillary antrum were difficult to view and remove with the transnasal endoscopic approach alone [9–11]. Special instruments or a combined transcanine fossa approach may be needed to complete surgical removal [9, 11, 14–16]. In children, the anatomically narrow sinuses, the nonerupted teeth, and concern of maxillary growth may effect surgeons' decision on the surgical approach, leading to recurrence.

The choanal polyps which originated from the superior turbinate or the sphenoethmoidal recess showed no recurrence. This type of polyp might be different from those developing from the maxillary antrum and is easier to locate and remove from its origin. No other types of choanal polyps in children were found, though several have been reported in other studies [17, 18].

This study found that the age group alone was significantly associated with recurrence (p value = 0.036). In other studies, the occasion of recurrence was found as early as 6 months in the cases of incomplete removal [10] to as long as 3 years [3]. Ten percent of our patients did not come back for postoperative evaluation as they lived very far away or came from neighboring countries. In this group of patients, the postoperative cleaning was carried out before discharge to ensure sinus drainage was adequate. The median follow-up time was 1.2 years, though the longest was up to 8 years. The overall time of recurrence in this study was 1.2 ± 0.6 years (95% CI 0.51, 1.97). We suggested monitoring ACP patients for at least 2 years in order to detect 95% of recurrence.

Conclusions

Antrochoanal polyps are more common in younger patients. Recurrence was significantly higher in children. Follow-up of patients should be for at least 2 years postoperatively in order to detect 95% of recurrence.

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