

## Frequency of recurrence of nasal polyps post endoscopic polypectomy

Amer Mohsin Hasan Al-Khazaali <sup>1</sup> , Abbas Kalaf Mahdi <sup>1</sup>

<sup>1</sup>Department of otolaryngology head and neck surgery , Al-Diwaniyah teaching hospital ,

Diwaniyah , Iraq.

E.mail : alquzzai2003@gmail.com

### ABSTRACT

#### **Background :**

Endoscopic polypectomy in those patients with chronic rhinosinusitis and nasal polyps have many objects. These are :

Opening diseased sinus ostia to help restoration of mucociliary clearance ,removing the diseased tissue to alleviate symptoms of nasal blockage, help in delivery and distribution of topical nasal therapy to the diseased mucosa in the nose and paranasal sinuses, especially to the frontal and sphenoid sinuses and also to open the olfactory cleft area to improve the sense of smell.

**Objectives :** To discover the frequency of recurrence of sinonasal polyp post surgical removal by means of endoscopic polypectomy (EP) also the associated risk factors that predispose to that recurrence.

**Design :** prospective study.

**Patient and method :** Thirty two patients presented to the (E.N.T.) department in Al-Diwaniyah general Hospital suffering from sign and symptom of nasal polyp resisting to medical polypectomy, with different ages and sex were studied from period of April 2018 to March 2019 ,and they were submitted for full history, clinical, endoscopic examination, radiological evaluation ,then the patients submit to of Endoscopic polypectomy, later on follow-up was done for period of 12 month that included: frequent endoscopic nasal examination.

**Results :** In this study we evaluate the frequency of the recurrence of nasal polypos post endoscopic polypectomy was 25%.

**Conclusion:** The overall recurrence rate was 25%, the highest frequency of recurrence was during the period of first six months post surgery and especially after the fourth month.

#### **Aim of the study :**

To evaluate frequency of the recurrence of sinonasal polyp post endoscopic polypectomy (EP) . also the associated risk factors that predispose to that recurrence.

## Introduction

### Definition of Nasal Polyposis:

with the historical reference that time back to ancients Egyptian of approximately 2500 BC.

Nasal polyposis later on became the subject of interest by Hippocrate who gave this nasal mass their name "polypus."

Today nasal polyposis is recognized to be a benign nasal growth that arise as a result of paranasal sinus inflammation, that is called, chronic rhinosinusitis (CRS) <sup>(1,2)</sup>.

Nasal polyposis are round, soften, glistening, yellow to pale shiny painless swelling that grow from the lining of the mucosa of nose and /or sinuses <sup>(3, 4)</sup>. Sinonasal Polyposis occur mostly bilaterally but can occur unilaterally.

The bulk or severity of the nasal polyposis in relations to the fixed anatomical landmark inside the nasal cavity is made by used an endoscope to grade that bulk as follow : A 0-3 grading system is used where as O: no polyposis; 1; small polyposis that not reach the upper border of inferior turbinate; 2, medium size polyposis that reach between the upper and lower border of inferior turbinates; and 3; large size polyposis that reach below the lower border of the inferior turbinates <sup>(3,4)</sup>.

### Explanation of procedure:

Endoscopic polypectomy (EP)

### Definitions:

Endoscopic Polypectomy is a minimal invasive technique that include usage of the endoscope to improve ventilation and mucociliary clearances of the sinuses and removing of the debris and mucus and polypoidal diseased tissue <sup>(4)</sup>.

### 2.2 method :

At first visit all patients underwent a full history taking and comprehensive clinical examination , the examination

Nasal polyposis ( NPs) are among the oldest record otolaryngology diseases, The most important thing in this technique is that directed to the disease itself and preserve as much as the normal and healthy mucosa, recognize the principles of re-establishment of the natural drainage pathway and the mucosal healing of the dependent sinus. Endoscopic polypectomy have many advantages than conventional surgery by allowing a better viewing of surgical field, a more accurate and meticulous drainages of that inflammatory changes of the diseased mucosa, less complication and the recurrence rate was very low as compared to the conventional one <sup>(5)</sup>.

## Patients and method :

### 2.1 patients :

In our study we depend in a prospective design and the time of the study between a period of (April 2018 – March 2019), that involve 32 patient, came to the outpatient consulting room of otolaryngology department in ALdiwaniyah general hospital.

Inclusion criteria :

1. Patients with signs and symptoms of chronic rhinosinusitis with nasal polyps that not responded to pharmacological treatment
2. Bilateral polyposis
3. Both sex and no limited age.
4. Patients with previous simple polypectomy surgery.

Exclusion criteria:

1. Unilateral polyps.
2. Sino nasal tumors (benign and malignant).

involved the use of endoscope (rigid Hopkins rod) with three pass steps to visualized the entire nasal cavity and sinus ostia. then complete heal and

neck examination has been done for all patients.

All patients submitted to pharmacological treatment in form of topical nasal steroid

( we used budesonide in our study that instilled for one month), antihistamines, topical decongestants, ,also we gave the patient systemic steroid, the dose and duration of systemic steroid is debated and differ in many centers, but in our study we used a mean of 7 days of systemic steroid (prednisilone 60mg/day) and tapered for 1-3 weeks to reduce the

#### I. duration of post-operatively recurrence in patient' undergone nasal polypectomy.

side effects of systemic steroids as much as possible<sup>(35)</sup>. Antibiotic was given only for those patients with signs and symptoms of acute infection.

Patients that not responded to full medical treatment (mainly after one month of treatment) referred to imaging study by mean of CT scan of nose and paranasal sinuses in three plains.

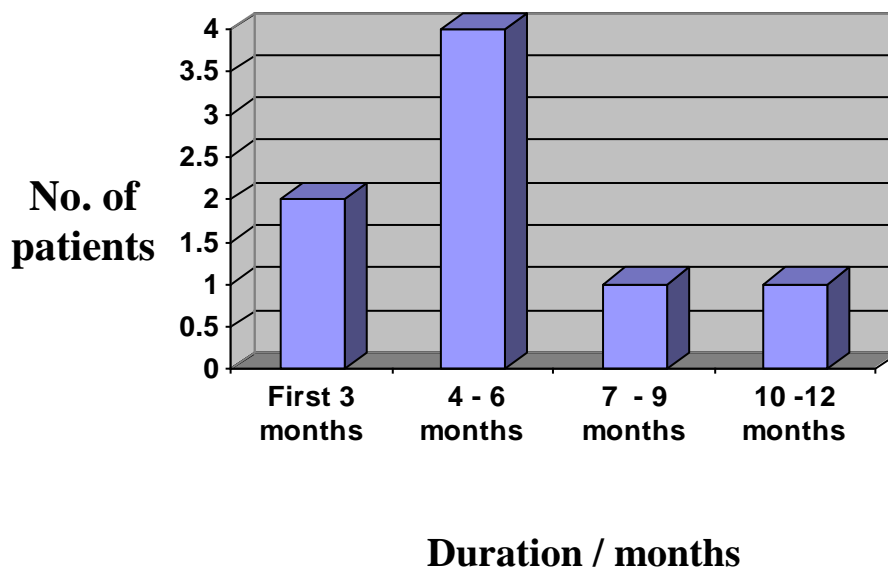
#### Results:

Thirty two patient had been included in that study suffered from Sino nasal polyposis underwent endoscopic polypectomy.

**Table 3-1:** Show the time of recurrence of nasal polyps

Duration	no.	%
From (0 to 3 month)	2	25
From (4 - 6 month)	4	50
From (7 - 9 month)	1	12.5
From (10 -12 month)	1	12.5
12 months	8	100

**Graph 3-2:** Show the distribution of time of recurrence of nasal polyps

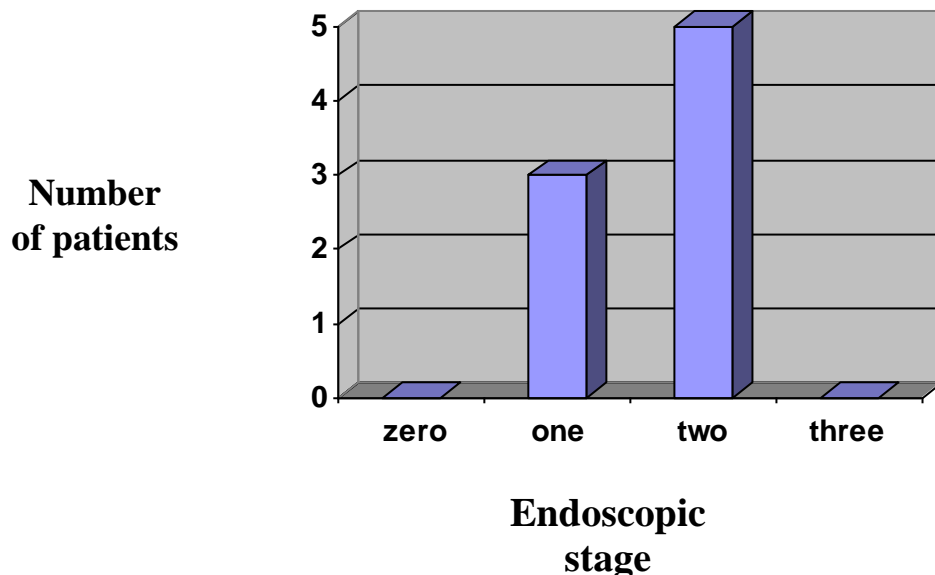


**II. The number of patients with recurrence were 8 patients and they had been staged as in table 3-2.**

**Table 3-2 :** Show the endoscopic staging among patients with recurrence

Endoscopic staging	Number of patient	Percentage of recurrence
Stage 0	0	0
Stage 1	3	37.5.5
Stage 2	5	62.5
Stage 3	0	0

**Graph: 3-2 :** Show the distribution of endoscopic staging



#### **Discussion :**

In our study, 32 patients had been operated on for endoscopic polypectomy, the post operative follow up interval ranged between 3-12 months with mean period of 8 months (Tables : 3-1).

**Frequency of recurrent nasal polyps in our study was 25% and when we did comparison and evaluation of that results with similar studies which provided a reference value of our frequency :**

Kenedy <sup>(6)</sup> 1993; had report of 5 percentage recurrence in 10 years of study.

Gulaeti and colleagues <sup>(7)</sup> 1998; had report 9 percentage of recurrence in 4 years study

Masegur and colleagues <sup>(8)</sup> 2007; report 21 percntage of polyp recurrence.

Daielson and olfson <sup>(9)</sup> 2001 and Lawson <sup>(10)</sup> 1991; studies had been reported the same percentage of recurrence which was 25%.

Moses and colleagues <sup>(11)</sup> 2000; reported 40% recurrence rate but they took only patients with previous sinus surgery .

Klosek <sup>(12)</sup> 2004; reported recurrence rate 26%.

Wigande and hoseman <sup>(13)</sup> 1998, reported 20% of recurrence in the osteomeatal area.

Wynn and colleagues <sup>(14)</sup> 2004, state that 60% suffer from recurrent nasal polyposis.

The high frequency of recurrence were noted in the first 6 months of our study and it may be either related to 1) Surgical factors related to the surgical technique and skills of our team and may had incomplete removal of polyps especially in missed areas medial to the middle turbinate mostly from the posterior ethmoidal sinuses. 2) Disease factor that related to the nature and pathogenesis of polyp itself that may had aggressive nature and tendency to recur especially those with association with allergic fungal sinusitis that recurred in the first 3 month post operatively. 3) Patent factor related to the compliance of patient to meticulous follow up and self cleansing and continuous use of topical nasal steroid and those with early recurrence may be stopped useage of nasal steroid.

### **Conclusion**

In our study we conclude that:

1. The recurrence rate is 25 %.
2. The highest frequency of recurrence was during the period of first six months post surgery and especially after the forth month.

### **Recommendations**

1. Further studies and larger sample with length the duration of study.
2. Preoperative counseling of surgical techniques and emphasizing of risk factors for recurrence and education of patients including the importance of long-term follow up and pharmacological treatment will ameliorate the chance of polyp recurrence.
3. Good preoperative assessment, proper patient selection, with meticulous anatomically oriented

surgical technique and appropriate technical equipments.

4. Good preoperative preparation for surgery in form of local decongestant and steroid is of great benefit to prevent intra operative surgical difficulties such as bleeding.
5. Proper postoperative follow-up and treatment is essential.

### **References**

1. NIELS Mygind AND Valerie J Lund . Nasal Polyposis , Scott-Brown's Otorhinolaryngology, Head & Neck Surgery. 2008; P.1549-51 .
2. Dalziel K, Stein K, Round A, Garside R. Systemic review of endoscopic sinus surgery for nasal polyps. Health Technol Assess. 2003; 7 (17). (Website)www.hta.ac.uk/project.asp? pjtId=1308.2006.
3. Kennedy DW , Zinreich SJ , Rosenbaum AE, et al. Functional endoscopic sinus surgery. Theory and diagnostic evaluation. Arch Otolaryngol 1985; 111 :576-82
4. Brain TJ. Historical background of nasal polyps. In: Settipane , Valerie J Lund , Bernstein J, Tos M, editors. Nasal polyps, epidemiology, pathology , treatment. Providence: Oceanside Publications; 1997 .P. 7-15.
5. Valerie J Lund. Diagnosis and treatment of nasal polyps. British Medical journal. 1995; 311 : 1411-4.
6. Danielsen A, Olfsson J. Endoscopic endonasal sinus surgery. A long-term follow-up study . Acta otolaryngol-1996; 116 (4) : 611-19.
7. Jankowski R, Pigret D, Decroocq F. Comparison of functional results after ethmoidectomy and nasalization for diffuse and severe nasal polyposis . Acta otolaryngol . 1997; 117:601-8.
8. Stoop AE , Van der Heijden HA, Biewenga J, Van der Baan S. Clinical aspects and distribution of immunologically active cells in the nasal mucosa of patients with nasal polyps after endoscopic sinus surgery and treatment with topical corticosteroids . Eur Arch otorhinolaryngol .1992;249:313-7.
9. Kennedy DW. Prognostic factors , out comes , and staging in ethmoid sinus

- surgery . Laryngoscope. 1992; 102 (supp57): 1-18. internet.
10. Gulati S.P., Anshu, Raman Wadhwa, Antariksh Deeo: Efficacy of functional endoscopic sinus surgery in the treatment of ethmoidal polyps . The internet journal of otorhinolaryngology . 2007 ; Vol. 7 Number 1 .
  11. Bajaj Y , Gadepalli C, Reddy T.N. : Functional Endoscopic Sinus Surgery : Review of 266 patients .The internet journal of otorhinolaryngology. 2007; Vol.6 number1.
  12. Masegur H, Adema JM, Luansi J , Fabra JM, Montserrat JM. Endoscopic sinus surgery in sinusitis . Rhinology. 1995; 33 :89-92.
  13. Moses RL, Cornetta A, Atkins JPJ , Roth M, Rosen MR, Keane WM. Revision endoscopic sinus surgery : The Thomas Jefferson University experience. Ear Nose Throat J. 1998 ; 77:190, 193 - 202 .
  14. Wigand ME, Hosemann W. Microscopical treatment of recurrent nasal polyposis .Rhinol suppl . 1989 ; 825-9.
  15. Wynn, Rhoda, and Gady Har- El. "Recurrence rates after endoscopic sinus surgery for massive sinus polyposis." The Laryngoscope 114.5 (2004): 811-813.