DOI: https://doi.org/10.53350/pjmhs22165168

ORIGINAL ARTICLE

Success of Endoscopic Surgery in Nasal Polyposis

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ABSTRACT

Background: Endoscopic Sinus Surgery is a minimally invasive procedure that involves the use of an endoscope to improve sinus airflow and drainage as well as the removal of polyps. The extent of surgery varies depending on the severity of the condition and the surgeon's experience. This method has been utilized to treat sinonasal problems for over a decade.
Aim: To find the frequency of success of Endoscopic Surgery in patients of Nasal Polyposis.
Study design: Descriptive (Prospective) case series.
Setting & duration: Department of ENT Unit II, Sir Ganga Ram Hospital, Lahore from 27-01-2021 to 26-07-2021.
Methods: In current study, 80 patients of Nasal Polyposis were enrolled. All Patients were undergone Endoscopic Surgery procedure, following the patient at 3 weeks post-operatively as per operational definition addressed by success. Post-stratification chi-square test was applied.
Results: Regarding age distribution, mean age was observed 37.60±4.479 years ranged from 30 to 45 years.35 patients were below 38 years of age whereas 45 patients were either 38 years or above. Out of 80 patients, 44 patients (55%) were male while remaining 36 patients (45%) were female. Frequency of patient success after Endoscopic surgery in Nasal polyposis was 64(80%).
Conclusion: In conclusion, the success of the patients was considered to be high and comparable to recent literatures both local and international. The percentage of success of patients was higher i.e. 80%.
Key words: Success, Endoscopic sinus surgery, Nasal Polyposis.

INTRODUCTION

Endoscopic sinus surgery is a minimally invasive procedure that involves opening the sinus air cells and ostia under direct observation. The goal of this technique is to get sinus ventilation and function back to normal[1]. With better understanding of the architecture of the lateral nasal wall and surgical training, this endoscopic method has gained popularity[2].

The surgical technique was standardized and popularized by Kennedy, since then indications for this procedure has increased due to its good results[3]. In one study, despite the shorter length of postoperative follow up, global improvement in symptoms and success of 80.5% was found in patients with nasal polyposis[4]. Nasal polyposis and chronic sinusitis patients often have a negative impact on their quality of life[5]. Therefore the primary goal of treatment of patients of nasal polyposis is to improve their quality of life and well-being[6].

In a study most of the patients experienced significant improvement in disease specific quality of life after Endoscopic sinus surgery for nasal polypi[7]. Clinical improvement has been seen in several investigations on the impact of endoscopic sinus surgery on sinonasal polyps. Sinus surgery in patients with sinonasal polyps can result in a significant reduction in polyps, as well as an improvement in nasal obstruction and quality of life[8]. The endoscopic sinus surgery technique provides accurate diagnosis with minimum trauma of surgery by clinician and provide precise postoperative care and follow up for nasal polyp disease.[9] Sinus surgery has been performed in one form or another for over 100 years in the history of nose and sinus surgery. Functional endoscopic sinus surgery, on the other hand, has only been widely used in the previous two decades. Maxillary sinus empyema was drained through the tooth socket or anterior wall of the maxillary sinus in the 18th century, resulting in the development of radical treatments such as mucous membrane excision and inferior meatal antrostomy[10]. Hirschman described the use of endoscope originally made for cystoscopy to examine the maxillary sinus through an oroantral fistula[11,12].

Maltz popularized the use of nasal endoscopes for diagnostic examination of the sinonasal cavity in 1925, coining the term sinuscopy to describe the procedure of seeing the maxillary sinus using endoscopes inserted through the canine fossa or inferior meatus[13]. Endoscopes with angled views ranging from 0 to 30, 70, 90, and 120 degrees were manufactured by Karl Storz of Germany[14].

The goal of this study was to determine the success rate of endoscopic surgery in Nasal Polyposis patients.

MATERIALS AND METHODS

After receiving authorization from the hospital ethical review committee, this study was carried out in the department of ENT Unit II Sir Ganga Ram Hospital / Fatima Jinnah Medical University Lahore. The trial lasted for six months from 27-01-2021 to 26-07-2021. This Descriptive (Prospective) Case series study was carried out with Non-probability; Consecutive sampling using a total sample size of eighty (80) patients which comprised of forty four (44) males and thirty six (36) females. Patients of both gender between 10 years to 70 years with nasal polyposis were included in this study. However patients with Cystic Fibrosis or any patient with history of previous endoscopic sinus surgery were excluded from our study. Following informed consent, 80 patients who met the inclusion criteria were chosen from OPD, emergency and ward. Detailed history and examination that is nasal speculum examination of patients was done and taken including demographic information as name, age, gender and address. Patients of Nasal polyposis underwent endoscopic sinus procedure. Success was assessed by following the patients at 3 weeks postoperatively by absence of nasal polyps on nasal speculum examination as per operational definition.

The collected data was analyzed by using SPSS version 20. Descriptive analysis was performed and statistics were calculated.

Received on 26-10-2021
Accepted on 25-04-2022

Age was given as a quantitative variable with a mean and +/- standard deviation. Gender and Endoscopic Surgery Success were provided as percentages and frequencies for qualitative variables. To account for effect modifiers, data was stratified by age, gender, number of polyps, and duration. The chi-square test was used after stratification. Significant was defined as a P-value of less than 0.05.

RESULTS

In present study, 80 patients were enrolled over a period of 6 months from 27-01-2016 to 25-07-2016 in the Department of ENT Unit II, Sir Ganga Ram Hospital, Lahore. Regarding age distribution, mean age was observed 37.60±4.479 years ranged from 30 to 45 years (Table-I). 35 patients were below 38 years of age whereas 45 patients were either 38 years or above. Out of 80 patients, 44 patients (55.0%) were male while remaining 36 patients (45.0%) were female.

Regarding distribution of patients by number of polyps, 10 patients (12.5%) had 2 polyps on nasal speculum examination, 20 patients (25%) had 3 polyps, 16 patients (20%) had 4 polyps, 18 patients (22%) had 5 polyps and 16 patients (20%) had 6 polyps. Regarding Distribution of patients by duration of polyps, 38 patients (47.5%) had duration of polyps less than 1 year and 42 patients (52.5%) had duration of polyps 1 year and above. When cross tabulation between Age groups and Number of Polyps was done, the results were significant (p=0.000). On cross tabulation between Gender and number of polyps results were non-significant (p=0.086). On cross tabulation between Age groups and Duration of polyps results were non-significant (p=0.009) and on cross tabulation between Gender and Duration of polyps, results were non-significant (p=0.621). When Duration of polyps were cross tabulated with Number of polyps, results were non-significant (p=0.012). Assessment of patients of nasal polyposis was done at post-operative 3 weeks. Absence of nasal polyps on nasal speculum examination at postoperative 3 weeks showed success of Endoscopic surgery as per operational definition. Frequency of patient success after Endoscopic surgery in Nasal polyposis was 64(80%).

Table I: Age distribution of cases

	Age
Number of patients	80
Minimum age	30
Maximum age	45
Mean age	37.60
Std. Deviation	4,479

Table II : Frequency distribution of cases by Age groups

Age	**Frequency**	**Percent**
Below 38 Years	36	45.0
38 Years & above	44	55.0
Total	80	100.0

Table-III. Distribution of cases by gender.

Gender	**n**	**%age**
Male	44	55.0
Female	36	45.0
Total	80	100.0

Table IV: Distribution of cases by number of Polyps.

Number of Polyps	**Frequency of patients**	**%age**
2	10	12.5
3	20	25
4	16	20
5	18	22
6	16	20
Total	80	100.0

Table V: Distribution of cases by Duration of Polyps.

Duration of Polyps	**Frequency of patients**	**%age**
Less than 1 year	38	47.5
1 year and above.	42	52.5
Total	80	100.0

Table VI : Cross tabulation between Age groups and Number of Polyps

Age groups	**Number of polyps**					
	2	**3**	**4**	**5**	**6**	Total
Below 38 Years	6	8	8	10	4	36
38 Years & above	4	12	8	8	12	44
Total	10	20	16	18	16	80

Using Chi square test, p value =0.000 (significant)

Table VII : Cross tabulation between Gender and Number of Polyps.

Gender	**Number of polyps**					
	2	**3**	**4**	**5**	**6**	Total
Male	4	15	11	8	6	44
Female	6	5	5	10	10	36
Total	10	20	16	18	16	80

Using Chi square test, p value =0.086 (non-significant)

Table VIII : Cross tabulation between Age groups and Duration of Polyps

Age groups	**Duration of Polyps**		**Total**
	Less than 1 Year	**1 Year and above**	
Below 38 Years	24	12	36
38 Years and above	14	30	44
Total	38	42	80

Using Chi square test, p value =0.009 (non-significant)

Table IX : Cross tabulation between Gender and Duration of Polyps.

Duration of polyps	**Male**	**Female**	**Total**
Less than 1 year	22	16	38
1 year and above	22	20	42
Total	44	36	80

Using Chi-Square test, p value=0.621 (non-significant)

Table X : Cross tabulation between Duration of Polyps and Number of Polyps.

Duration of polyps	**Number of polyps**					
	2	**3**	**4**	**5**	**6**	Total
Less than 1 year	6	12	8	7	5	38
1 Year and above	4	8	8	11	11	42
Total	10	20	16	18	16	80

Using Chi square Test, p value= 0.012 (non-significant)

Table-XI. Assessment of Patients at Post operative 3 weeks of Endoscopic sinus surgery.

Post Op. 3 weeks assessment of patients	**n**	**%age**	**Success of ESS**
Nasal Polyps Absent on Nasal speculum examination.	64	80	Yes
Nasal Polyps Present on Nasal speculum examination.	16	20	No

DISCUSSION

In this study, 80 patients with nasal polyps were treated by Endoscopic sinus surgery. In the present study the average Age of patients of nasal polyposis who underwent endoscopic sinus surgery was 38 years that is in 3rd decade of life. Regarding gender, in this study 44 patients (55%) were male while 36 patients (45.0%) were female. Patients were also distributed by number of polyps and duration of polyps. Data was stratified into age, gender, number of polyps, duration of polyps and cross tabulation was done between age groups and number of polyps, between gender and number of polyps, between age groups and duration of polyps, between gender and duration of polyps and between duration of polyps and number of polyps. In the results of these cross tabulation, only the results between Age groups and Number of Polyps were significant (p=0.000) showing possible association between Age and number of polyps. The results of cross tabulation between gender and number of polyps, between age groups and duration of polyps, between gender and duration of polyps and between duration of polyps and number of polyps were not significant showing no association between these variables.

Post-operative 3 weeks assessment of patients of nasal polyposis was done after endoscopic sinus surgery by nasal speculum examination to see absence of nasal polyps and by perfumed cotton swab to check improvement of symptom of loss of smell. These showed improvement of patient and success of

Endoscopic sinus surgery. In our study 64 patients (80%) had absence of nasal polyps on nasal speculum examination and improvement of sense of smell noted by using perfumed cotton swab. This study result were almost similar to those reported in one of the recent international research and literature in which success of Endoscopic sinus surgery in nasal polyposis in shorter postoperative follow-up period was 80.5%[5]. This study can be compared with another recent local study in which success and satisfaction of functional endoscopic sinus surgery in patients of nasal polyposis was 86%[1].

Sixteen patients (20%) had some nasal polyps present on nasal speculum examination and had not much improvement of loss of smell checked by perfumed cotton swab.

CONCLUSION

In conclusion, the success of the patients was considered to be high. The percentage of success of patients was higher i.e. 80%. This percentage of success is comparable to the recent local and international studies.Hence results showed good success and outcome of Functional Endoscopic sinus surgery in nasal polyposis. Therefore Functional Endoscopic sinus surgery is preferred in patients of nasal polyposis for their treatment.

Conflict of interest: Nil

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