Original Article

Recurrent Nasal Polyps: An Experience at Liaquat University Hospital Hyderabad and Civil Hospital Karachi

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ABSTRACT

OBJECTIVE: To evaluate the factors related with recurrence of nasal polyps in patients operated by traditional sinus surgery (nasal polypectomy, ethmoidectomy).

METHODS: A prospective study was executed comprising of 150 patients who undergone nasal polypectomy from 2004 to 2009. The median follow-up period was 25 months (range 12 months to 65 months). The variables considered with polyp recurrence namely; age, gender, history of purulent nasal discharge, facial pain, anosmia, post nasal dripping (PND), headache, nasal allergy, asthma and computed tomography (C.T) staging. Analysis of recurrences was accomplished using independent sample t-test, chi-square and Fishers exact test. A p value of $p < 0.05$ was considered as the level of significance.

RESULTS: During the study period, recurrences developed in 50 patients, with a rate of 33%. No association of recurrence with age, gender, purulent nasal discharge, facial pain, anosmia, post nasal dripping, headache, nasal allergy, and asthma were observed. The C.T staging was significantly higher among the group with recurrence as compared to the group without recurrence. ($p < 0.001$)

CONCLUSION: Patients presenting with extensive disease suggested by C.T scan staging are at higher risk for the development of recurrences after endonasal surgery for nasal polyps.

KEY WORDS: Recurrences, Nasal Polyps, Polypectomy, Ethmoidectomy.

INTRODUCTION

Nasal polyps have been a medically recognized condition since the time of ancient Egyptians.[1] Prevalence of this condition is estimated to be between 1% and 4%,[2] but some studies report rates as high as 32%.[3] No single predisposing condition can be implicated for the formation of polyps, though they may be associated with several other diseases, notably cystic fibrosis, asthma and aspirin intolerance.[4] The role of infection is also thought to be an important cause in the genesis of polyps.[5] However, when it is difficult to manage, the conditions often necessitates both medical and surgical interventions.

Functional endoscopic sinus surgery (FESS) is now widely accepted for the treatment of nasal polyps, however, a high incidence of post surgical recurrences is documented.[6,7] The use of topical corticosteroids is considered by some specialists to be the best treatment for the prevention of recurrence.[8,9] However, prevention and prediction of recurrence of nasal polyp is still a subject of much debate among clinicians and researchers. The present study was conducted to assess different clinical features which are associated with recurrence of nasal polyps.

METHODS

Study design: observational study

Sample size: 150 patients with nasal polyps

Study duration: 2004 and 2009

Study setting: ENT departments of Liaquat University Hospital, Hyderabad & Civil Hospital Karachi

Methodology: All patients had preoperative computed tomography (CT) scans of the sinuses. Only patients with a minimum of 25 months follow-up were included. Independent variables which were assessed included patients age, gender, purulent nasal discharge, facial pain, anosmia, post nasal drip, and headache.

Data Collection Procedure: This information was collected from outpatient and inpatient notes. History of nasal allergy and asthma was also noted. Information about these variables was collected from preoperative anesthesia evaluation form. Preoperative C.T staging was performed using Lund-McKay scoring system.[10]

Data analysis tool: The data was analyzed using SPSS for Windows 15.

Statistical Analysis: Patients with no recurrence and with recurrence were compared by age and C.T staging using independent sample t-test. Fisher's exact test was used for anosmia and nasal allergy and Chi-square test for the rest of the variables. A p value of $p < 0.05$ was taken as the level of significance.

RESULTS

The result of 150 patients with nasal polyps, who

undergone traditional sinus surgery(nasal polypectomy, intranasal and extranasal ethmoidectomy) were reviewed. The study sample comprised of male 95 and 55 female patients. The mean age of patients was 32.73±10.43 years. Polyps were removed, ethmoid sinuses were opened in all patients. The patients were managed with antibiotics and steroids after surgery.

The mean C.T staging score was more among recurrent cases (X = 23.83 ± 1.3) than the cases without recurrence (X = 12.25 ± 1.83) and was statistically significant (p < 0.001).

Fifty (33%) patients got recurrent nasal polyps, observed in the follow-up period. The average time for recurrence was 15 months (SD ± 7.3).

No association of recurrence was observed with sex, nasal discharge, facial pain, effect on smell, postnasal drip, headache was observed (p value > 0.05).

TABLE I: DEMOGRAPHIC AND CLINICAL CHARACTERISTICS BY RECURRENCE STATUS

	No recurrence (n=100) n(%)	Recurrence (n =50) n (%)	P-value
Age(years) †	32 .73 (±10.43)	33.51 (±12.86)	NS
Gender Males	60 (60%)	35 (70%)	NS
Females	40 (40%)	15 (30%)	
Nasal discharge	7 (7%)	30 (60%)	< 0.05
Nasal obstruction	2 (2%)	10 (20%)	>0.05
Facial Pain	1 (1%)	2(4%)	<0.05
Post nasal drip	2(2%)	10 (20%)	<0.05
Headache	1(1%)	05(10%)	<0.05
Effect on smell	02(2%)	05(10%)	
C.T staging score †	04(4.0%)	01(2%)	0.001

† Mean (SD)

TABLE II: SURGICAL PROCEDURE PERFORMED (n=150)

Procedure	Number	Percentage
Nasal polypectomy	110	73.3%
Intra nasal ethmoidectomy	30	20.0%
Extra nasal ethmoidectmy	10	6.6%

DISCUSSION

Extensive and radical procedures were recommended historically for the treatment of nasal polyps.[11] Now a days the latest technique like endoscopic sinus surgery has been advocated.[12] Even endoscopic sinus surgery if used as a single procedure, results in high recurrence, so in addition, medical treatments that include use of corticosteroids are recommended.[13]-[15] Multiple studies have shown factors concerned with recurrence after functional endoscopic sinus surgery; and most have grouped patients with nasal polyps and chronic sinusitis.[16-19] However, in this study, we had included patients with nasal polyps only.

In this study with respect to particular symptoms, no special symptom was predictive of eventual recurrence. Same observation was also documented by Senior et al.[16] However, olfactory change was noted as an early indication of recurrence. Our data was in accordance with this finding; as C.T staging was higher among the group with recurrence compared to the group without the recurrence.

Similarly, Watelet[17] suggested that initial disease severity was one of the best predictors for recurrence after sinus surgery. A CT scan is beneficial to evaluate disease severity after surgery.

Dursun[18] reported allergy as a indicator of poor prognosis in the follow-up. In contrast, Garrel[19] found that pre-operative clinical stage of sinonasal polyp and asthma neither associated with recurrence nor with the functional outcomes.

CONCLUSION

In conclusion, patients presenting with extensive disease as seen in C.T stage are at higher risk to get recurrences after endonasal surgery for nasal polyposis. Using this simple clinical information, patients at risk of recurrence could be defined preoperatively. These patients require particular counseling, long term treatment with local steroid and more vigilant postoperative follow up.

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