



A STUDY TO EVALUATE SYMPTOM SPECIFIC OUTCOME OF ENDOSCOPIC SINUS SURGERY IN CASE OF NASAL POLYPOSIS AND ROLE OF POST OPERATIVE SINUS IRRIGATION IN SURGICAL OUTCOME.

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Dr. Vipin Kushwaha

Third Year Resident, Department of Otorhinolaryngology, MGMMC, Indore

Dr. Yogita Dixit

Assistant Professor, Department of Otorhinolaryngology, MGMMC, Indore

Dr. Taniya Sheoran

Second Year Resident, Department of Otorhinolaryngology, MGMMC, Indore

Dr. Roli Vachhani*

Third Year Resident, Department of Otorhinolaryngology, MGMMC, Indore
*Corresponding Author

ABSTRACT

Nasal polyp growths are typically round, soft, semi-translucent structures with a pale or yellowish glistening appearance. They can develop from various areas of the nasal mucosa or paranasal sinuses. Management typically involves medications such as antihistamines, corticosteroids to reduce inflammation, and in cases where symptoms persist or recur, surgery may be considered. Post-operative care following Functional Endoscopic Sinus Surgery (FESS) is crucial for optimizing surgical outcomes. A prospective interventional study of 30 patients who presented to ENT department with diagnosed nasal polyposis and undergoing surgery were subjected to detailed clinical history and examination. The patients were operated and advised sinonasal irrigation as part of routine care post op FESS. At 2 weeks, 4 weeks and 6 weeks follow up, periodic evaluation for relief of symptoms was done. The study suggests the role of nasal saline irrigation post op FESS as, after 4 weeks of follow-up and Post nasal saline irrigation, polyp persisted in only 1 patient out of 30. Oedema was present in 4 patients, Nasal discharge persisted in 11 patients, scarring was present in only 1 patient, mild crusting was present in 4 patients after 6 weeks of follow-up. The study shows that the saline nasal lavage results in clinically meaningful benefits among the various postoperative treatments for CRS with polyposis patients, and it is an effective method for improving quality of life, preventing crusting and reducing the use of the topical and oral steroids.

KEYWORDS

Nasal polyposis, FESS, Sinonasal irrigation

INTRODUCTION

Nasal polyps are inflammatory outgrowths that commonly originate in the ethmoid or middle meatal regions. Affecting approximately 4% of the general population, they can cause symptoms like nasal congestion, runny nose, facial pain, and reduced sense of smell, primarily in adults over 20 years. Rare in children under 10, they may indicate cystic fibrosis. Nasal polyps are more prevalent in males, with a male-to-female ratio of at least 2:1. Management includes antihistamines and corticosteroids, while surgery is reserved for persistent cases.

Functional Endoscopic Sinus Surgery (FESS) is a minimally invasive approach that restores natural sinus drainage, aeration, and mucociliary clearance, targeting the disease's underlying causes. This technique aims to preserve normal anatomy under direct visualization. Post-operative care typically involves antibiotics, corticosteroid sprays, analgesics, and nasal irrigation.

Nasal irrigation is a safe, cost-effective therapy that cleanses the mucosa, removes antigens and inflammatory mediators, and improves mucociliary function. Factors like surgical status, device type, head position, and technique influence its effectiveness. As both a contemporary and traditional practice, nasal irrigation significantly reduces inflammation and enhances post-operative outcomes for patients undergoing FESS.

METHODOLOGY

A prospective study of 30 patients with nasal polyposis from Maharaja Yashwantrao Hospital, Indore, was conducted. After obtaining consent, patients underwent polypectomy with FESS. Follow-up evaluations were done at 2, 4, and 6 weeks post-surgery. The assessment focused on subjective patient-reported improvements and clinical evaluations to measure the effectiveness of the treatment.

Inclusion Criteria

Patients in the age group of 15 - 60 years, coming with nasal polyposis undergoing surgery and giving consent for being the part of the study, are included in the study.

Exclusion Criteria

Patients not giving consent for this study, surgically unfit, patients with bleeding disorders, patients with tumors of nose and paranasal sinuses and pregnant patients because of difficulty in follow up were not included in the study.

Procedure

Patients who met the inclusion and exclusion criteria were included in the study. Clinical details were recorded, and all patients underwent general and detailed ear, nose, and throat examinations after consent.

The following investigations were performed:

1. Diagnostic Nasal Endoscopy- using rigid endoscopes for detailed evaluation of nasal and sinus anatomy. Endoscopic findings were assessed using the Lund-Kennedy Staging and Meltzer's Nasal Polyp Scoring system, comparing pre-operative and 6-week follow-up scores.
2. Radiological Assessment - CT PNS.
3. Routine Blood Investigations with OT profile and general anaesthesia assessment.

Patients not responding to medical treatment underwent polypectomy with FESS and were discharged with post-operative medications and sinonasal irrigation. Follow-up evaluations were done at 2, 4, and 6 weeks to assess symptom relief. Diagnostic nasal endoscopy was performed at follow-up visits.

The Lund-Kennedy score, grading system was used for endoscopic staging of sinonasal conditions. It evaluates five parameters: polyps, edema, nasal discharge, scarring, and crusting. Polyps are scored as 0 if absent, 1 if confined to the middle meatus, and 2 if extending beyond the middle meatus. Edema is graded as 0 for absence, 1 for mild, and 2 for severe. Nasal discharge is scored as 0 for no discharge, 1 for clear and thin discharge, and 2 for thick, purulent discharge. Scarring is graded as 0 if absent, 1 for mild, and 2 for severe. Crusting is scored as 0 if absent, 1 for mild, and 2 for severe. The score provided an objective measure of disease severity.

Patient satisfaction was also evaluated.

DISCUSSION

Nasal polyps are inflammatory outgrowths of sinonasal tissue, commonly associated with chronic rhinosinusitis with nasal polyps (CRSwNP). These benign growths usually develop bilaterally in the sinonasal cavity and are frequently observed in conditions like cystic fibrosis and malignancy.

The exact mechanisms of chronic sinonasal inflammation in nasal polyposis remain unclear. However, an impaired sinonasal epithelial barrier may increase exposure to inhaled pathogens and antigens, triggering chronic inflammation in a dysregulated immune response.

Medical treatment options include corticosteroids and antihistamines, but these are often insufficient, requiring surgical intervention.

Patients with significant sinonasal disease unresponsive to medical management are evaluated for Functional Endoscopic Sinus Surgery (FESS). This minimally invasive procedure restores natural drainage and mucociliary clearance while preserving sinonasal anatomy.

In this study, 30 patients with CRS and nasal polyposis underwent preoperative diagnostic nasal endoscopy, surgery, and post-operative nasal irrigation. Post-operative follow-up was conducted at 2, 4, and 6 weeks, with endoscopic scoring done at 6 weeks.

The highest incidence of nasal polyps was observed in patients aged 31-40 years (33.3%). Male predominance was noted, with 63.3% affected compared to 36.6% females. Nasal obstruction was the most common symptom, reported by 90% of participants, followed by nasal discharge (70%), and facial pain or pressure (53.3%). Other symptoms included sneezing, postnasal drip, headaches, anosmia, and mouth breathing.

Clinical assessment revealed 56.6% of patients had congested nasal mucosa, 76.6% had deviated nasal septum, and 50% showed inferior turbinate hypertrophy. Bilateral polyps were present in 36.6% of cases, with 53.3% showing mucopus.

At 6 weeks post-operatively, only 1 patient had persistent polyps, while mild crusting and nasal discharge persisted in a few. The overall patient satisfaction rate was 86.6%.

These findings emphasize the role of FESS and post-operative nasal irrigation in improving sinonasal health, reducing symptoms, and enhancing patient satisfaction.

CONCLUSION

Nasal polyposis is a common cause of upper airway obstruction. Its management involves controlling the disease and immune response through surgical removal of polyps using Functional Endoscopic Sinus Surgery (FESS), followed by nasal douching.

FESS is the gold standard treatment for chronic rhinosinusitis, aiming to remove diseased tissue and improve sinus drainage. Post-operative nasal irrigation helps improve sinus mucosal health and is an essential part of recovery.

Saline nasal irrigation significantly enhances symptoms, quality of life, and post-operative outcomes in CRS with polyps patients. It helps prevent crusting, scarring, and reduces steroid use.

With proper education, most irrigation techniques provide effective results.

OBSERVATION AND RESULTS

Table 1- Endoscopic Findings: Pre-operative (Lund- Kennedy Score)

ENDOSCOPIC FINDING	0= ABSENT	1= MILD/ MODERATE	2= SEVERE	MEAN TOTAL SCORE
POLYP	0	10	20	3.76
OEDEMA	13	12	5	
NASAL DISCHARGE	9	17	4	
SCARRING	28	2	0	
CRUSTING	20	8	2	

Table 2 : Post Operative Endoscopic Score At 6 Week Follow Up

ENDOSCOPIC FINDING	0= ABSENT	1= MILD/ MODERATE	2= SEVERE	MEAN TOTAL SCORE
POLYP	29	1	0	1.03
OEDEMA	24	4	2	
NASAL DISCHARGE	19	7	4	
SCARRING	29	1	0	
CRUSTING	26	4	0	

Table 3– Post Operative DNE After Follow Up At 6 Weeks After Sino-nasal Irrigation

DNE findings	2week	%	6weeks	%	P value
normal mucosa	4	33.3	19	70	0.001
mild oedematous mucosa with patent cavity	10	23.3	4	13.3	0.007
severely oedematous mucosa with compromised cavity	6	13.3	2	6.6	
mild polypoid mucosa with patent cavity	7	13.3	3	10	0.136
severe polypoid mucosa with compromised cavity	3	6.6	2	6.6	
Residual polyp/polyp confined within cavity	2	6.6	1	3.3	0.125
Mucopus	6	13.3	1	3.3	0.044
Crusting	14	26.6	4	13.3	0.004

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