CODEN [USA]: IAJPBB ISSN: 2349-7750

INDO AMERICAN JOURNAL OF
PHARMACEUTICAL SCIENCES

http://doi.org/10.5281/zenodo.3633095

Available online at: http://www.iajps.com *Research Article*

EFFECTIVENESS OF FUNCTIONAL ENDOSCOPIC SINUS SURGERY FOR THE TREATMENT OFRECURRING AND PRIMARY NASAL POLYPOSIS

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Article Received: November 2019 **Accepted:** December 2019 **Published:** January 2020

Abstract:

Objectives: *This research work carried out to elaborate the effectiveness of the FESS (Functional Endoscopic Sinus Surgery) in our institute as compared with the past research works for the treatment of the primary and recurring nasal polyposis.*

Methodology: *This research work carried out for a period of complete two years from November 2017 to October 2019 in the ENT Department of General Hospital, Lahore. In this research work, we selected one hundred and sixteen patients from both genders with a range of age from eighteen to sixty year from the OPD of END Department, with NP (Nasal Polyposis) who underwent FESS. Out of total one hundred and sixteen patients, 12.90% (n: 15) were present with recurring NP whereas 87.10% (n: 101) were present with primary NS. We evaluated the patients clinically. We performed the nasal endoscopy before surgery and computed tomography scan of nose as well as paranasal sinuses in each patient to evaluate the extension of disease and assess the surgical anatomy. We followed up the patients three monthly, six monthly and after one year. We assessed the clinical symptoms of NP with the use of nasal endoscopy at very visit for follow up.*

Results: *There were total one hundred and sixteen patients with documented identification of NP. Among them, 64.70% (n: 75) were male patients & 35.30% (n: 41) patients from female gender. The average age of the male patients was 39.10 years and the average age of the female patients was 36.70 years. Only 12.90% (n: 15) patients developed recurring disease in whole one year.*

Conclusion: *There is always preference to the FESS as a main treatment modality for recurring and primary NP. There can be improvement in signs with reduced chances of recurring of the disease in greater than ninety percent patients of this disease.*

Keywords: *FESS, NP, surgery, paranasal sinuses, modality, symptoms.*

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Please cite this article in press Muhammad Faisal Shahzad et al., ***Effectiveness Of Functional Endoscopic Sinus Surgery For The Treatment Ofrecurring And Primary Nasal Polyposis.,*** *Indo Am. J. P. Sci, 2020; 07(01).*

INTRODUCTION:

The drop shaped developments or growths in paranasal sinuses are nasal polyps. Their development can be in the all regions of paranasal sinuses but most favored sites are the middle meatus & osteomeatal complex regions. These complications have link with the allergies and infections for long time particularly fungal sinusitis. Majority of the persons with nasal polyps present with rhinorrhea, anosmia, sneezing and postnasal drip. They can have association with the DNS (Deviated Nasal Septum) or atopies. Normally topical nasal steroid drops are much effectual in relieve from the associated symptoms. Sometimes, there is also prescription of the systemic steroid courses for very short terms. But in the most serious cases, surgery is the best option to relieve the patients and for the improvement in their quality of life.

There is loss of charm in traditional nasal polypectomy because of the high recurrence rate. Ankema has discovered that although twelve weeks therapy with the use of fluticasone propionate nasal drops decreased the requirement of the sinus surgery in patients of NP and chronic rhinosinusitis but there was requirement of surgery in fourteen out of twenty seven patients after the surgery [1]. In current era, FESS is the best choice for the treatment of such complication with high rate of accuracy and low recurring rate. Damm has stated the improvement in the QoL in eighty five percent patients with an average follow-up period of 31.70 years. The rationale of this research work was to evaluate the effectiveness of FESS in the therapy of primary and recurring NP in our institute with comparison to the published research works in the past.

METHODOLOGY:

This research work carried out in the ENT Department of General Hospital, Lahore from November 2017 to October 2019. The ethical committee of the institute gave the permission to conduct this research work. We included one hundred and sixteen patients from both genders having range of age from eighteen to sixty years with recorded diagnosis of NP. We used the convenient sampling method for the selection of the patients. Surgery inclusion standard was basing upon the positive results of NP in the patients with the use of computed tomography and nasal endoscopy. We did not include the patients suffering from other serious complications or diseases like HTN (Hypertension), DM (Diabetes Mellitus) and patients with very young age or in their late ages.

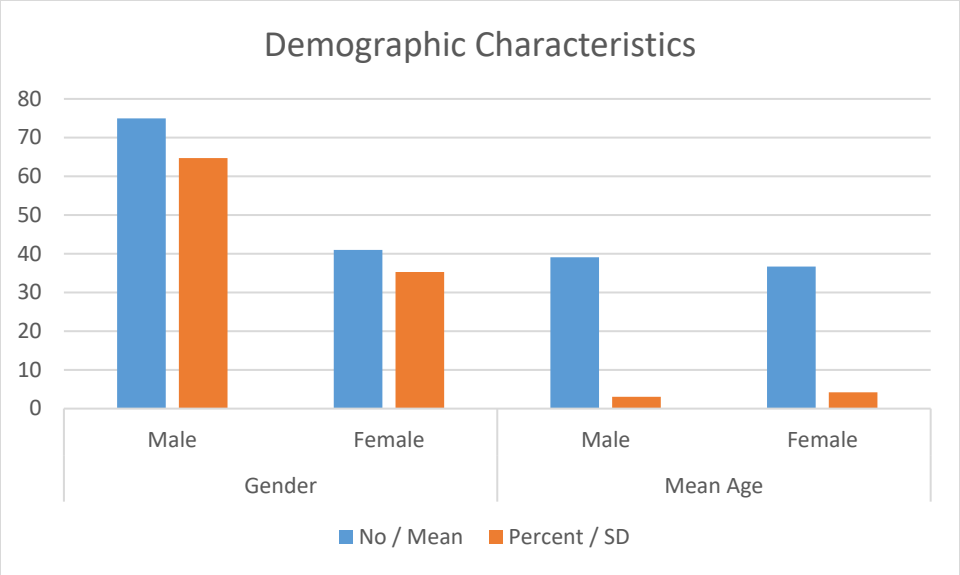
Every patient underwent FESS under GA (General Anesthesia). We obtained the consent from every patient after explaining them the purpose of this research work. We applied the standard steps of the surgery to every patient depending upon the extension of the complication. We prescribed the nasal steroid drops to all the patients as well as antibiotics after the surgical intervention. We also gave antifungal medicines to some patients. We evaluated all the patients through nose endoscopy after surgery and assessed the associated minor complication on every follow up visit. We carried out the follow-up after surgery at first week, second weeks, 1st month, 3rd month, 6th month and one year by authors of this working on this study. We defined the recurring disease as a state of NP that appeared among patients who were recovered after surgery and occurred in later follow up period.

RESULTS:

Total one hundred sixteen patients with recorded diagnosis of NP were the part of this research work. There were 64.70% (n: 75) male and 35.30% (n: 41) female patients with a range of age from 18.0 to 60.0 years. The average age of the male patients was 39.10 years and average age of the female patients was 36.70 years. All the patients were present with different degrees of obstruction in nasal cavity. Approximately 75.0% patients were present with anosmia. We performed computed tomography and nasal endoscopy for every patient. We staged the NP in three categories like polyps restricted to only middle meatus, polyps getting into inferior meatus and polyps touching the nasal cavity's floor. We placed the 72.0% patients in Stage-2 and 28.0% patients in Stage-3.

Table - 1: Demographic characteristics of the patients (n=116)

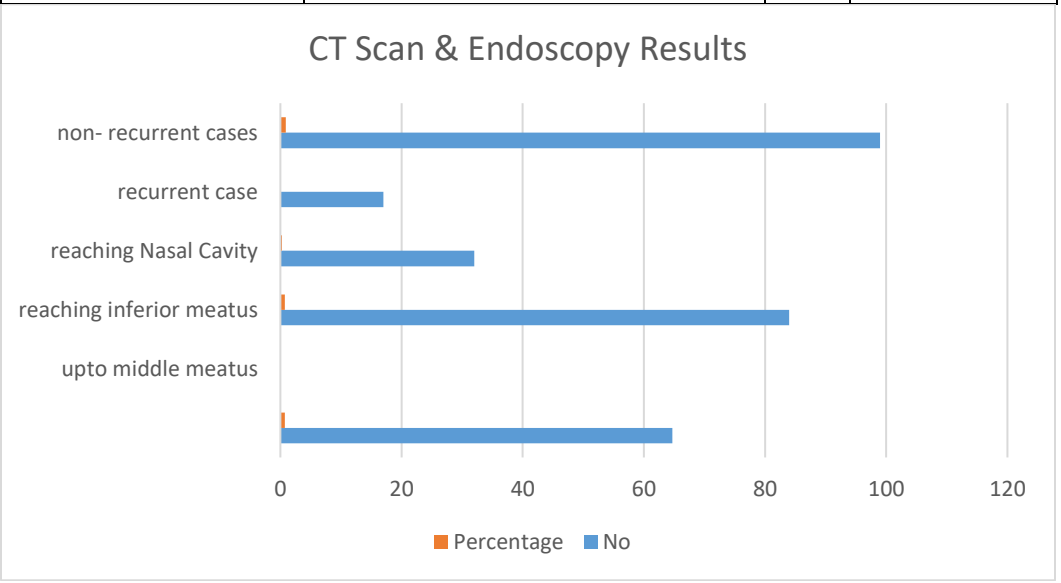
Characteristics		No / Mean	Percent / SD
Gender	Male	75	64.7
	Female	41	35.3
Mean Age	Male	39.1	3.03
	Female	36.7	4.22



We also carried out the radiological grading of NP with the use of computed tomography. Out of 1one hundred and sixteen patients who were regularly followed-up only 12% (n: 17) patients were the cases with reoccurrence of complication. We examined all the patients with the use of the nasal endoscope on their every visit for follow-up. We did not note any serious complication after the surgery. We dealt the minor issue like crusting & adhesions at the very moment.

Table-II : CT Scan & Endoscopy results

Outcomes		No	Percentage
Anosmia / Hyposmia		64.7	75%
Nasal Polyposis	up to middle meatus	-	-
	reaching inferior meatus	84	72%
	reaching Nasal Cavity	32	28%
Type of cases	recurrent case	17	12%
	non- recurrent cases	99	88%



DISCUSSION:

Nasal polyps are without pain, soft, non-cancerous developments on the passage of nasal cavity and sinuses. There can be easy removal of the nasal polyps through surgery, restricting the passage of nose. With the use of the medicines and traditional surgical procedures, there can be recurring of the polyps in 3 out of four patients after a mean duration of four years. Dalzeik [3] stated the high recurrence rate of NP with simple polypectomy. Messer Kling [4] invented the mucosal sparing method with the utilization of endoscope for this surgery. He emphasized on the removal of the key regions of obstruction to permit the normal function. Kenedy [5] used the term of FESS to elaborate the endoscopic method of sinus surgery for therapy of NP. Stamberger [6] justified the procedure of FESS by discussing that nose & anterior ethmoids are accountable for most of the infections of maxillary & frontal. Steward [7] stated high rate of improvement of symptoms in the patients suffering from severe condition of disease with the use of FESS. We faced no serious complication during the surgery. Suzuki [8] also examined very low complication rat of only 0.50% after FESS. Lildholdt also recommended the nasal steroid drops after the surgery.

Follow-up for long term shows that FESS is a surgical procedure of choice for patients suffering from NP. Senior [10] has stated the symptom's improvement in 91.60% patients treated with FESS within an average follow up duration of 7.80 years. Bolger WE [11] has stated that FESS is most beneficial surgical method with the improvement of mucociliary transport by the reduction in inflammation, edema and formation of polyp. The findings of this research work is much comparable with the case works of international level hence it showed that FESS in the better treatment modality for primary as well as recurring NP. Bhata Charyya N [12] and Satish N [13] stated that it is very successful and secure method with very low rate of morbidity as well as high rate of improvement in QoL of the patients. Both technologies of FESS and CT scan have extended the indications for the sinus surgery in accordance with findings of Emma [14]. There is also increase utilization of the recent technology of image-guided endoscopic surgery [15 in lessening all concerns about major veins, brain and eyes. This kind of surgical intervention is necessary for the severe cases of NP.

CONCLUSION:

For the therapy of NP, FESS is one among the preferred modality. This modality is very effective and secure with very low rate of morbidity and very low rates of related complications. There are very less recurring rates of NP with increase in the improvement of symptoms and QoL (Quality of Life) in greater than ninety percent patients.

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