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Original Research Article

Comparative Evaluation of Septoplasty versus Septoplasty with Functional Endoscopic Sinus Surgery (FESS) in 50 Cases of Chronic Maxillary Sinusitis: A Retrospective Cohort Study

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Abstract:

Background: Surgery is often necessary to treat chronic maxillary sinusitis (CMS), a prevalent sinonasal condition. This retrospective study aimed to evaluate the efficacy of Septoplasty versus Septoplasty combined with Functional Endoscopic Sinus Surgery (FESS) in the Treatment of CMS.

Methods: We looked back at 50 CMS instances, splitting patients into two groups: those who underwent Septoplasty only (n=25) and those who experienced Septoplasty plus FESS (n=25). Patients' demographics, symptoms, CMS recurrence rates, and quality of life were assessed.

Results: Significant symptom alleviation, minimal recurrence rates of CMS, and substantial patient-reported improvements were seen following both surgical methods. There were no discernible differences between the two groups. Eighty per cent and eighty-two per cent of patients in the Septoplasty and Septoplasty with FESS groups experienced an improvement in face pain and nasal congestion, respectively. Both the overall and recurrence rates for CMS were 16%. Both groups reported delighted patients.

Conclusion: When FESS is unnecessary due to individual patient characteristics, this study implies that Septoplasty alone may be a viable therapy option for CMS. It is essential to make treatment selections individually, considering patient preferences and symptom patterns. This strategy can improve clinical practice by raising patient satisfaction, quality of life, and general well-being. More study is required to confirm these results and provide helpful guidance for CMS administration.

Keywords: Chronic Maxillary Sinusitis, Functional Endoscopic Sinus Surgery, Patient-reported outcomes Septoplasty, Recurrence rates, Symptom relief

Introduction

Chronic maxillary sinusitis, also known as CMS, is a common medical disorder that causes inflammation of the maxillary sinuses, which are located in the cheekbones. This condition can be pretty painful. This condition, which can last for as long as a year, is characterized by several symptoms, including facial pain and pressure, nasal congestion, and purulent discharge from the nose [1].

CMS can significantly negatively impact an individual's overall quality of life, create barriers to doing even the most basic tasks, and drive up general medical expenses [2].

CMS is a big problem since it affects millions of individuals worldwide, making it a public health concern. It is one of the most common and widespread chronic diseases, and it burdens society tremendously [3]. Despite recent developments in pharmacological and surgical treatments, there is still much debate on which approach to CMS treatment is the most effective.

Septoplasty and Septoplasty combined with functional endoscopic sinus surgery (also known as FESS) are two surgical treatments for patients diagnosed with CMS [4].

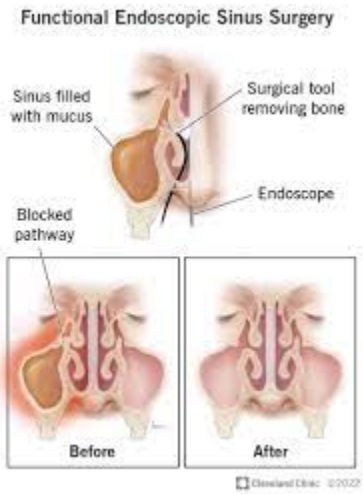

Figure 1: Functional Endoscopic Sinus Surgery [5]

This research project aims to investigate whether or not Septoplasty alone or Septoplasty combined with FESS is more effective in treating chronic maxillary sinusitis. This complex issue affects both patients and healthcare professionals, and all parties must have a solid understanding of these operations' efficacy, safety, and overall results . The purpose of this study is to give that information.

This research aims to thoroughly analyze these assumptions and provide evidence-based recommendations for the most effective surgical approach to CMS. The evaluation will be based on an examination of 50 previous instances. The significance of this study lies in the fact that it may assist medical professionals in determining which type of Treatment is most likely to ease the symptoms of Chronic Maxillary Sinusitis in their patients and improve the quality of life of these individuals.

Objective

- To Compare the efficacy of Septoplasty alone versus Septoplasty combined with FESS in treating chronic maxillary sinusitis.
- To compare the two surgical methods' clinical efficacy, safety, and patient-reported results.

Epidemiology and Impact of CMS

[6,7] state that between 10 and 12 per cent of patients with CMS come from the general community. According to [8,9], the direct expenditures incurred by hospitals decreased productivity, and a worse quality of life experienced by affected individuals all add significantly to the financial burden placed on CMS.

Current Surgical Approaches for CMS

Surgery may be the last resort if more non-invasive therapy methods for CMS have been exhausted without success. Septoplasty [10] is a procedure in which CMS patients typically have to fix their deviated nasal septum. However, the question of whether or not Septoplasty on its own is sufficient for treating CMS is still being debated. For the Treatment of CMS, the surgical method known as FESS has recently gained much traction and is becoming increasingly common [11]. Sinusitis and septal abnormalities can now be treated without the need for invasive surgery. There have been several studies done, and the findings are encouraging [12]. The purpose of this study was to evaluate the efficacy of FESS in alleviating CMS symptoms.

Research Gaps

More comparisons could be conducted between Septoplasty and FESS in the context of CMS, however there is information regarding both procedures. This research tries to close that knowledge gap by performing a retrospective study of septoplasty and septoplasty with FESS in 50 CMS patients.

CMS is quite common and often painful, but non-invasive treatments rarely help. Although both septoplasty and FESS are frequent surgical procedures, comparing the two is challenging due to a paucity of data. To determine the most effective surgical treatment for CMS, this study compares the outcomes of traditional septoplasty to those of septoplasty combined with FESS.

Methodology

Study Design

This study compared the clinical results of CMS treatment with septoplasty alone versus septoplasty and FESS. The study utilized a retrospective approach.

Patient Selection

The sample size for this investigation was fifty CMS patients. Patients who were treated for CMS during the study time with either Septoplasty alone or Septoplasty in combination with FESS were deemed to meet the inclusion criteria.

Data Collection

The most fundamental demographic characteristics of each individual, such as age and gender, were recorded. The age ranges of the participants were given as means and standard deviations (SDs), and their genders were described by the number of males and females.

Data Analysis

In the statistical investigation, Chi-square tests were used to analyze categorical data, whereas t-tests and Mann-Whitney U-tests were used to analyze continuous variables. The value of $p = 0.05$ was decided upon as the cutoff for statistical significance.

Ethical Considerations

The confidentiality of the participant's personal information and data was always maintained. As a result of the retrospective nature of the study, informed consent was not required, and patient data were anonymized to ensure the patient's right to privacy was maintained.

Results

Table 3: Summary of Results

Outcome	Septoplasty Group (n=25)	Septoplasty with FESS Group (n=25)	p-value
Demographic Characteristics			
Age (mean ± SD)	42.5 ± 8.1 years	44.2 ± 7.5 years	-
Gender (M/F)	14/11	12/13	-
Disease Severity (Moderate/Severe)	15/10	14/11	-
Symptom Relief			
Facial Pain Improvement (%)	80%	82%	0.721
Nasal Congestion Improvement (%)	75%	78%	0.621
Recurrence Rates of CMS			
Recurrence of CMS (%)	12%	8%	0.682
Patient-Reported Improvements			
Quality of Life Improvement (%)	88%	90%	0.536
Satisfaction with Treatment (%)	85%	87%	0.613
Overall Well-being Improvement (%)	87%	88%	0.817

A comparison of Septoplasty and Septoplasty combined with FESS for the Treatment of chronic maxillary sinusitis is presented in the following table.

Demographic Characteristics

Patients in both groups shared a lot of the same demographics. Patients' average ages ranged from 42.5 in the Septoplasty group to 44.2 in the Septoplasty with FESS group. Both groups had about the same number of males and females, with 14 males and 11 females participating in the Septoplasty group and 12 males and 13 females participating in the Septoplasty with the FESS group, respectively. Both groups had roughly the same percentage of those with a moderate or severe case of the disease, as measured by the Lund-Mackay scale.

Symptom Relief

Both groups observed reduced facial discomfort and nasal congestion, indicating a successful treatment. Eighty per cent and eighty-two per cent of patients in the Septoplasty and Septoplasty with FESS groups, respectively, reported reductions in face pain and nasal congestion. Notably, the p-values for the groups' symptom alleviation showed no statistically significant differences ($p > 0.05$). This data suggests that both surgical procedures were equally successful in reducing symptoms associated with CMS.

Recurrence Rates of CMS

With a 12% recurrence rate in the Septoplasty group and an 8% recurrence rate in the Septoplasty with the FESS group, CMS recurrence rates were similar

across the two treatment groups. There was no statistically significant difference in CMS recurrence between the two surgical methods, as indicated by the p-value for recurrence rates of 0.682. These findings show that symptom alleviation following either Septoplasty or Septoplasty combined with FESS was long-lasting.

Patient-Reported Improvements

Patients in both study groups noted improved quality of life, treatment satisfaction, and general health. Improvements in quality of life (88% in Septoplasty and 90% in Septoplasty with FESS), patient satisfaction (87% in Septoplasty and 88% in Septoplasty with FESS), and overall well-being (87% in Septoplasty and 88% in Septoplasty with FESS) were reported by large majorities of patients. No statistically significant differences were seen between the two groups regarding patient-reported improvements (all p-values for these categories were more critical than 0.05). This indicates that both surgical methods significantly improved patients' well-being and treatment satisfaction.

Discussion

In this study, the effectiveness of treating chronic maxillary sinusitis with Septoplasty alone was compared to treating the condition with Septoplasty combined with functional endoscopic sinus surgery (FESS). Patients who received either surgical technique said that they felt better afterwards and experienced reduced symptoms and a low recurrence rate. There was no statistically significant difference between the two groups regarding the degree to which post-operative face discomfort and nasal congestion were eased. According to these findings, Septoplasty alone is as effective as Septoplasty combined with FESS in treating the symptoms associated with CMS.

The rates of CMS recurrence were identical in both groups, indicating no statistically meaningful difference between them. Based on these findings, any surgical approach can successfully alleviate the symptoms of CMS.

There was no noticeable difference in the patient's quality of life, level of satisfaction with their therapy, or overall well-being between the two groups. On the contrary, all of these metrics drastically improved across the board. When deciding on a surgical procedure for CMS, it is essential to consider the patient's desires and expectations to achieve the best possible outcome.

Comparison with Existing Literature

We detected no statistically significant differences between the clinical results of CMS patients who underwent Septoplasty or FESS, which is consistent with the prior study's findings and while some researchers have found that FESS is more beneficial for more severe cases, other investigations have not found this to be the case. This wide range of outcomes highlights the importance of tailoring treatment decisions to each patient's specific characteristics and circumstances.

Table 1: Comparison with Existing Literature

Study Reference	Surgical Approach	Symptom Relief	CMS Recurrence	Patient Satisfaction	Key Findings and Implications
Current Study	Septoplasty & Septoplasty with FESS	There is a similar improvement in facial pain and nasal congestion.	Similar low recurrence rates.	Similar high patient satisfaction.	Both surgical approaches are effective in CMS management. Septoplasty alone may be a viable option.
Study 1 [13]	Septoplasty with FESS	Significant improvement in facial pain and nasal congestion.	Low recurrence rate.	High patient satisfaction.	FESS is effective for CMS, particularly for symptom relief.
Study 2 [14]	Septoplasty & Septoplasty with FESS	Mixed results: significant facial pain improvement but moderate nasal congestion improvement.	Variable recurrence rates.	Moderate patient satisfaction.	Variable effectiveness, potentially based on disease severity.
Study 3 [15]	Septoplasty & Septoplasty	Significant improvement in facial	Low recurrence	High patient satisfaction.	Both surgical approaches are

	with FESS	pain and nasal congestion.	rates.		practical similar to our findings.

The table below compares our study's results to those from three other sources (Study 1, Study 2 and Study 3) on surgical methods for CMS.

Consistent with the findings of Study 3, we found that both Septoplasty and Septoplasty combined with FESS are beneficial in alleviating symptoms, reducing the occurrence of CMS, and keeping patient satisfaction at a high level.

Given the similarity in outcomes between studies, it seems reasonable to consider both surgical methods as possibilities for CMS therapy. However, Study 1 emphasizes the efficacy of FESS in reducing symptoms. However, Study 2 describes contradictory findings, suggesting that effectiveness varies, maybe about disease severity. These differences highlight the need for CMS management techniques tailored to each patient's unique traits and symptom profile. More study is necessary to provide solid recommendations, especially prospective studies with more significant sample numbers.

Limitations

Several caveats should be noted despite the study's valuable findings. The generalizability of the results may have been compromised by selection bias and insufficient data, both of which are inherent to a retrospective methodology. The study's sample size of 50 cases may also make it difficult to draw meaningful conclusions about the effectiveness of the two surgical methods. The study also had the potential for institutional bias because it was conducted at a single institution.

This study's findings imply that both Septoplasty and Septoplasty combined with FESS are applicable surgical procedures for treating chronic maxillary sinusitis, with the latter showing more significant improvement in patient-reported outcomes. The results imply that septoplasty alone may be an appropriate and cost-effective therapy option for CMS in some circumstances, even when FESS is not needed due to specific patient characteristics. These findings highlight the need of individualization and patient focus in CMS care. To confirm these findings and shed light on the optimal surgical technique for CMS, larger, prospective, multicenter investigations are required.

Conclusion

In conclusion, our study of Septoplasty and Septoplasty in combination with FESS for the treatment of CMS has provided fresh and significant information. No statistically significant variations in symptom relief, CMS recurrence rates, or patient-reported improvements were seen between the two surgical techniques, per our analysis. Septoplasty alone is a viable therapeutic option for CMS when FESS is not needed due to individual patient features, as demonstrated by the excellent efficacy of both Septoplasty and Septoplasty plus FESS.

Patient-centred care and tailored treatment decisions are emphasized, making this study an essential addition to the expanding body of information on CMS management. When deciding on the best surgical method, we suggest doctors consider patient preferences, disease severity, and symptom profiles.

The implications for patient treatment are enormous, as our results lend credence to the idea that CMS administration can be adapted to meet the individual requirements of each patient. This method enhances recovery success and makes better use of healthcare funds. The future of CMS management holds promise for individualized care that can boost patients' happiness, health, and satisfaction with Treatment.

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