



ROLE OF CORTICOSTEROIDS IN FUNCTIONAL ENDOSCOPIC SINUS SURGERY.

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ABSTRACT

The patients who failed to respond the medical therapy are treated with functional endoscopic sinus surgery (FESS) which is helpful and effective modality in relieving the symptoms of rhinosinusitis. The corticosteroids are used extensively in the treatment of rhinosinusitis as it helps in reducing the inflammation in preoperative, intraoperative and postoperative phases. The present retrospective study was conducted in GMC Srinagar over a period of 12 months with the aim to determine the role of Corticosteroids in Functional Endoscopic Sinus Surgery. A total of 50 patients were involved in the study and categorised into two groups, i.e. Group I which consist of 25 patients who received local / systemic corticosteroids and Group II which consist 25 patients who didn't received local / systemic corticosteroids. The data was analysed and recorded in Microsoft Excel sheet and analysed with SPSS version 21.0. It was found that the most of the patients were in the age group of 21-30 years followed by 31-40 years (30%), 41-50 years (14%), 11-20 years (12%), 51-60 years (6%) and <10 years (4%). The male to female ratio was 1.63:1. The present retrograde study concluded that the patients used local / systemic corticosteroids had better postoperative outcome than the patients who didn't received local / systemic corticosteroids.

KEYWORDS

Corticosteroids, Sinus surgery, Functional endoscopy, Outcome, FESS and Rhinosinusitis.

INTRODUCTION

The inflammation of nasal cavity and paranasal sinuses is termed as rhinosinusitis/sinusitis. The rhinosinusitis is associated with poor impact and leads to poor quality of life.¹

It is observed that the rhinosinusitis is a common illness but has many diagnostic and therapeutic challenges.² The sufferers of acute and chronic rhinosinusitis exhibits various clinical manifestations such as, poor nasal patency, nasal obstruction, rhinorrhoea, hyposmia, facial pain, etc.³

The nasal corticosteroid, saline nasal irrigation, oral / injected corticosteroids, antiallergic, aspirin desensitization and antifungal treatments are the medical treatment options used to treat the rhinosinusitis.⁴ The patients who failed to respond the medical therapy are treated with functional endoscopic sinus surgery (FESS) which is helpful and effective modality in relieving the symptoms of rhinosinusitis.^{5,6}

It is estimated that about 80% to 90% patients had relief from the symptoms of rhinosinusitis after FESS.⁷

The corticosteroids are used extensively in the treatment of rhinosinusitis as it helps in reducing the inflammation in preoperative, intraoperative and postoperative phases.⁸ As well as the corticosteroids is helpful in pain control intraoperatively.⁹

Thus the present study was conducted to determine the role of Corticosteroids in Functional Endoscopic Sinus Surgery.

MATERIAL AND METHODS

The present retrospective study was conducted in over a period of after taking the institutional permission. A total of 50 patients were involved in the study after obtaining the informed consent and categorised into two groups, i.e. Group I which consist of 25 patients who received local / systemic corticosteroids and Group II which consist 25 patients who didn't received local / systemic corticosteroids.

Inclusion Criteria

1. All age patients.
2. Clinically diagnosed with chronic rhinosinusitis.
3. Using local / systemic corticosteroids.
4. Patients underwent FESS.

Exclusion criteria

1. Patients with other co-morbidities.
2. Patients with previous FESS.

A detailed history was collected and general and ENT examination was done. The patients received oral and systemic corticosteroids five days prior to surgery were compared with the patients who didn't received corticosteroids. All the surgeries were done under general anaesthesia.

Intraoperative bleeding (measured by Fromme-Boezaart scale), pain (measured by Visual Analogue Scale), nasal oedema and type of discharge were noted.

The data was analysed and recorded in Microsoft Excel sheet and analysed with SPSS version 21.0.

OBSERVATION AND RESULTS

Table 1 Age

Age in years	No.	%age
<10	2	4
11-20	6	12
21-30	17	34
31-40	15	30
41-50	7	14
51-60	3	6
61-70	0	0
>70	0	0

Table 1, depicted that the most of the patients were in the age group of 21-30 years followed by 31-40 years (30%), 41-50 years (14%), 11-20 years (12%), 51-60 years (6%) and <10 years (4%).

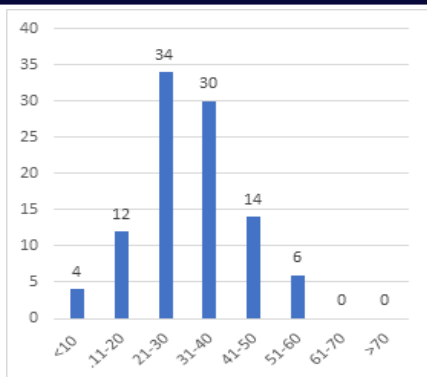


Figure 1. Age

Table 2 Gender

Gender	No.	%age
Male	31	62
Female	19	38

In our study most of the patients were males (62%) and 38% were females. The male to female ratio was 1.63:1.

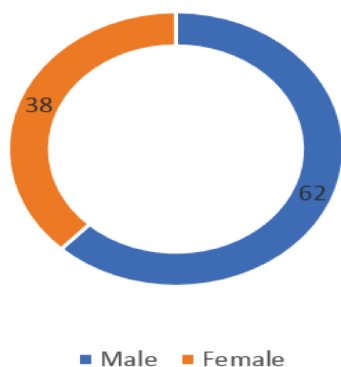


Figure 2. Gender distribution

Table 3 Intraoperative bleeding (measured by Fromme-Boezaart scale)

Grades of bleeding	Group I		Group II	
	No.	%age	No.	%age
0	11	44	7	28
1	5	20	2	8
2	4	16	5	20
3	2	8	4	16
4	2	8	4	16
5	1	4	3	12

Table 3 showed the comparison of intraoperative bleeding in both the groups. It was observed that the intraoperative bleeding was more in Group II (patients who didn't received corticosteroids) as 3 patients (12%) of corticosteroid group and 7 patients (28%) of non corticosteroid group who had grade 4 to 5 bleeding.

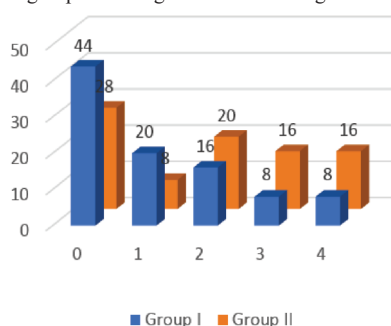


Figure 3 - Intraoperative bleeding(measured by Fromme-Boezaart scale)

Table 4 Level of Pain (measured by VAS score)

Level of pain (score)	Group I		Group II	
	No.	%age	No.	%age
Mild	15	60	9	36
Moderate	7	28	8	32
Severe	3	12	8	32

It was observed that the patients who received corticosteroids prior to surgery experienced less pain as compared to the patients who didn't received corticosteroids as shown in table 4.

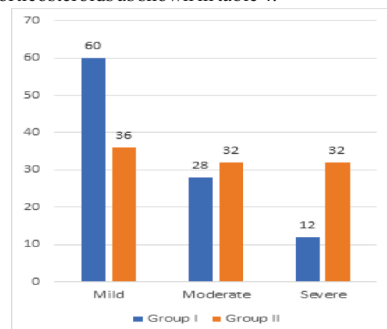


Figure 4. Level of Pain (measured by VAS score)

Table 5 Nasal oedema

Nasal oedema	Group I		Group II	
	No.	%age	No.	%age
No oedema	21	84	13	52
Mild oedema	4	16	12	48

It was observed that the majority of the patients who received corticosteroids prior to surgery experienced no nasal oedema as compared to the patients who didn't received corticosteroids as shown in table 5.

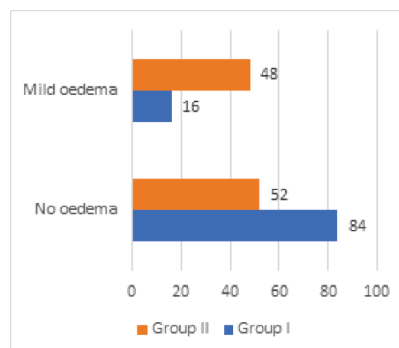


Figure 5. Nasal oedema

Table 6 Type of nasal discharge

Nasal discharge	Group I		Group II	
	No.	%age	No.	%age
No discharge	17	68	11	44
Clear discharge	5	20	4	16
Purulent discharge	3	12	10	40

Table 6, presents the type of nasal discharge. It was found that the most of the patients who didn't receive the corticosteroids has purulent discharge, whereas, the patients who received corticosteroids had no discharge mostly.

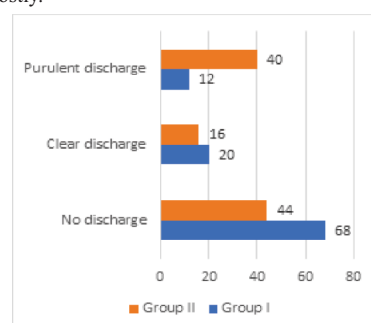


Figure 6. Type of nasal discharge

DISCUSSION

The data was analysed and discussed with previously available literature. In our study the most of the patients were in the age group of 21-30 years followed by 31-40 years (30%), 41-50 years (14%), 11-20 years (12%), 51-60 years (6%) and <10 years (4%). The male to female ratio was 1.63:1. These findings are correlated with the study conducted by Dr. Pathak RK et al., (2020) found that the majority of the patients were in the age group of 21-30 years and there was male predominance.¹⁰ In another similar study conducted by Shanbag R et al., (2019) also found that the majority of the patients were males.¹¹

The comparison of intraoperative bleeding in both the groups. It was observed that the intraoperative bleeding was more in Group II (patients who didn't received corticosteroids) as 3 patients (12%) of corticosteroid group and 7 patients (28%) of non corticosteroid group who had grade 4 to 5 bleeding. It was observed that the patients who received corticosteroids prior to surgery experienced less pain as compared to the patients who didn't received corticosteroids. The majority of the patients who received corticosteroids prior to surgery experienced no nasal oedema as compared to the patients who didn't received corticosteroids and the most of the patients who didn't receive the corticosteroids has purulent discharge, whereas, the patients who received corticosteroids had no discharge mostly. These results are comparable with the study performed by Dr. Pathak RK et al., (2020) found that patients who received corticosteroids had no nasal oedema, no nasal discharge, and had less intraoperative bleeding.¹⁰ In another similar study carried out by Pundir V. et al., (2016) reported that the patients who received corticosteroids had significantly reduced blood loss, shorter operative time, improved surgical field quality and reduced postoperative pain.¹²

CONCLUSION

It was concluded that the patients used local / systemic corticosteroids had better postoperative outcome than the patients who didn't received local / systemic corticosteroids.

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