



Study on Steroid Usage in Preoperative Inflammatory Bowel Disease

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Abstract

Aims & Objectives: To study the usage of Steroids in Perioperative Inflammatory Bowel Disease.

Methodology: This is Prospective Observational study conducted in the Department of Surgery at RMMCH for the duration of 3months.

Results: In this study, 102 patients were enrolled in which majority of patients were female (66.4%) than male (33.6%). Among them, majority of patients fall under 30-40 years of age group, for about 50.9% and least among 20-30years of age group, for about 21.5%. Likewise, number of patients who have inflammatory bowel disease co-existed with diabetic mellitus were around 37.1%, anemia 26.4%, renal disease 24.7%, cardiac 11.5%. Among these patients, 73.3% female patients were reported with Crohn's disease in which 54.5% took steroids and 26.6% were male patients reported with Crohn's disease with 75% steroid usage. 73.8% males were having Ulcerative colitis in which 44.4% patients took steroid drugs and 26.7% female's patients were reported with Ulcerative colitis with 41.6% steroid usage.

Conclusion: Preoperative steroid use was 44.4% & 41.6% in case of male and female patients in ulcerative colitis whereas in Crohn's disease steroid usage by male and female patients were 75% & 54.5%. In our study, male patients with Crohn's disease found to have higher steroid usage (75%), therefore, the male patients with Crohn's disease having higher risk of postoperative complications, so more number of studies are needed to rectify the effect of preoperative steroid usage.

Keywords: Steroids Usage, Inflammatory Bowel Disease, Crohn's Disease, Ulcerative colitis.

Introduction

Inflammatory bowel disease (IBD) is a term used to describe disorders that involve chronic inflammation of digestive tract.¹

Types of IBD include:

Ulcerative colitis: This condition causes long-lasting inflammation and sores (ulcers) in the

innermost lining of large intestine (colon) and rectum.²

Crohn's disease: This type of IBD is characterized by inflammation of the lining of digestive tract, which often spreads deep into affected tissues.³

Inflammatory bowel disease symptoms vary, depending on the severity of inflammation and where it occurs. Symptoms may range from mild to severe. Both ulcerative colitis and Crohn's disease usually involve severe diarrhea, abdominal pain, fatigue and weight loss.⁴

Main aim is to reduce the inflammation that triggers signs and symptoms. Drug therapy and surgery is the sole treatment for IBD. First line treatment of IBD includes Anti-inflammatory drugs like corticosteroids and aminosalicylates such as olsalazine, balsalazide, mesalamine.^{5,6} Based on the area of colon that's affected the medications are given. Immunosuppressant drugs like azathioprine, mercaptopurine, cyclosporine and methotrexate are given. In addition antibiotics can be used when infection is a concern. Other medications and supplements include anti-diarrheal medications, pain relievers, iron supplements, calcium and vitamin d supplements.⁷⁻⁹

Surgery is advised when conventional medical therapy had failed in IBD patients. Corticosteroids like prednisone, methylprednisolone and hydrocortisone are used in the treatment of IBD.¹⁰⁻¹² Frequent usage of steroids prior to surgery can lead to poor wound healing and infectious complications which has raised concerns regarding their potential impact on postoperative outcomes. Most of the studies show's that preoperative steroid use are associated with infectious or overall complications.¹³

Methodology

Study type: Prospective observational study.

Study Place: The study was conducted in the department of Surgery, Rajah Muthiah Medical College Hospital, Annamalai University, Annamalai Nagar, Tamil Nadu.

Study Period: The study was conducted for a period of three months (November 2018-January-2019).

Study Recruitment Procedures

- The recruitment of subjects was carried out with the help of physician who has the knowledge of patient's medical history.
- The subjects selected were the patients who were treated as inpatients.
- The study procedure was completely explained to the patients.
- The patients included in the study were selected based on inclusion and exclusion criteria.

Inclusion Criteria

- ✓ Patients who were treated as inpatients for the diagnosis of Inflammatory Bowel Disease.
- ✓ Patients of both the gender.
- ✓ Patients between 20-50yrs of age.

Exclusion Criteria

- ✓ Patients who are not willing to participate.
- ✓ Patients who need emergency care were excluded.

Study Method

1. The study method involves selection of patients based on the inclusion criteria.
2. Interpretation of results.
3. Conclusion.
4. Report submission.
5. Collected data will be stored in department library for future reference in the form of thesis book.

Observation and Results

Table 1: Gender-Wise Distribution

Gender	No. of patients	Percentage (%)
Male	34	33.6%
Female	68	66.4%
Total	102	100%

During this study 102 patients were enrolled in which majority of patients were female (66.4%) than male (33.6%).

Table 2: Age-Wise Distribution

Age	No. of patients	Percentage (%)
20-30	22	21.5%
30-40	52	50.9%
40-50	28	27.4%

The age-distribution of the study showed majority of patients fall under 30-40years of age group, accounting for about 50.9% and least among 20-30years of age, accounting for about 21.5%.

Table 3: Disease-Wise Distribution

S. No	Disease	No. of patients	Percentage (%)
1	Anemia	32	26.4%
2	Diabetics Mellitus	45	37.1%
3	Cardiac	14	11.5%
4	Renal Disease	30	24.7%

According to disease wise distribution, number of patients who have inflammatory bowel disease along with diabetic mellitus was around 37.1%,

anemia 26.4%, renal disease 24.7%, cardiac 11.5%.

Table 4: Steroid Usage Distribution

S. No	Factors	No. of patients	Steroid Use					
			Crohn's disease			Ulcerative colitis		
			No. of patients	Yes	No	No. of patients	Yes	No
1.	Male	34 (33.6%)	16 (26.6%)	12(75%)	4(25%)	18(73.8%)	8(44.4%)	10(55.6%)
2.	Female	68(66.4%)	44(73.3%)	24(54.5%)	20(45.5%)	24(26.7%)	10(41.6%)	14(58.4%)
3.	Current smoking	25(24.5%)	9(15%)	4(44.4%)	5(55.6%)	16(85%)	5(31.2%)	11(68.8%)
4.	Anemia	32(31.3%)	10(16.6%)	36(60%)	34(40%)	22(83.4%)	8(36.3%)	14(63.7%)
5.	Weight loss	16(15.6%)	11(18.3%)	6(54.5%)	5(45.5%)	5(81.7%)	3(60%)	2(40%)
6.	Diabetic Mellitus	45(44.1%)	27(45%)	15(55.5%)	12(44.5%)	18(55%)	7(38.8%)	11(61.2%)
7.	Cardiac	14(13.7%)	4(6.6%)	2(50%)	2(50%)	10(93.4%)	4(40%)	6(60%)
8.	Renal	30(29.4%)	21(35%)	9(42.8)	12(57.2%)	9(65%)	3(33.3)	6(66.7%)

Out of 102 patients, 73.3% female patients were reported with Crohn's disease in which 54.5% took steroids and 26.6% were male patients reported with Crohn's disease with 75% steroid usage.

Out of 102 patients, 73.8% males were having Ulcerative colitis in which 44.4% patients took steroid drugs and 26.7% female's patients were reported with Ulcerative colitis with 41.6% steroid usage.

Conclusion

In this study, among 102 patients considered, female patients were more (66.4%) compared to male patients (33.6%), who were in the age group ranging from 20-50 years. According to the age group most commonly affected age group patients were 30-40 years accounting for about 50.9%. It has also been found that the patients with IBD co-existed with disease like diabetes, anemia, renal & cardiac problems.¹⁴

Steroids which are used as anti-inflammatory agents may associate with increase in overall post-operative complications especially infectious complications among users and non-users of preoperative steroid use.

Preoperative steroid use was 44.4% & 41.6% in case of male and female patients in ulcerative colitis whereas in crohn's disease steroid usage by male and female patients were 75% & 54.5%.¹⁵

In our study, male patients with crohn's disease found to have higher steroid usage (75%), therefore, the male patients with crohn's disease having higher risk of postoperative complications, so more number of studies are needed to rectify the effect of preoperative steroid usage.¹⁶

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