Inflammatory Bowel Disease flare outcomes after corticosteroid therapy: A single center retrospective Analysis

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INTRODUCTION

In the pre-biologic era, population-based data from Olmsted County, MN (Faubion and colleagues) demonstrated high rates of corticosteroid persistence and colectomy for ulcerative colitis (UC) patients started on corticosteroid therapy. We present a single-center retrospective analysis in a racially diverse population to study their short and long-term outcomes following the administration of corticosteroids for UC among patients at high risk for colectomy who required admission along with the impact of sociodemographic and clinical factors on their outcomes [1].

METHODS

We analyzed medical records of patients hospitalized for a UC flare to Montefiore Medical Center from January 1, 2015, until January 1, 2020, who were treated with systemic corticosteroids. Outcomes were measured as short term (30 days) or long term (1 year) following the admission. Demographic variables were abstracted. We identified patients at the short term that achieved complete clinical remission (≤2 bowel movements/day; no blood, pus, or mucus in feces; and no abdominal pain, fever, weight loss, or extraintestinal symptoms), partial remission (≤4 stools/day; blood, pus, mucus in feces; or abdominal pain; or all 4 less than daily and no systemic symptoms, such as fever or weight loss), and no clinical response (no regression of clinical symptoms) as defined in Faubion, et al. We also determined which patients were prolonged remission (Patients who required subsequent courses of CSs but maintained complete or partial response and were steroid free at the end of 1 year), corticosteroid persistent (continued CS therapy at year-end caused by relapse after CSs were discontinued or caused by relapse at dose reduction impeding discontinuation of CS therapy.), and those who underwent colectomy (relapse within 1 year after CS therapy was initiated, resulting in surgical resection). Patients who required surgical resection and were also steroid dependent at 1 year were counted in the surgical resection group due to active disease at 1-year. Independent variable association between 30 day and 1-year outcomes were assessed by multivariate logistic regression [1].

RESULTS

81 patients admitted with UC were identified. Sociodemographic variables are shown in Figure 1 and Table 1. The mean age for diagnosis was 41.09 years. Duration of the disease at index event had a mean of 1.3 years. Overall, 68/81 (84%) achieved complete clinical remission, 9/81 (11%) partial remission, and 4/81 (5%) did not respond to systemic corticosteroids at 30 days. Whereas 68/81 (84%) were corticosteroid-free at 1 year. 11/81 (13%) remained on corticosteroids, and 2/81 (3%) underwent colectomy at 1 year. Additionally, TNF alfa inhibitors (27%) or anti-integrins (15%) were started after or as the corticosteroids were discontinued. The multivariable analysis did not show any association between sociodemographic factors and outcomes of interest (Table 2).

Figure 1. Sex, Race and Ethnicity

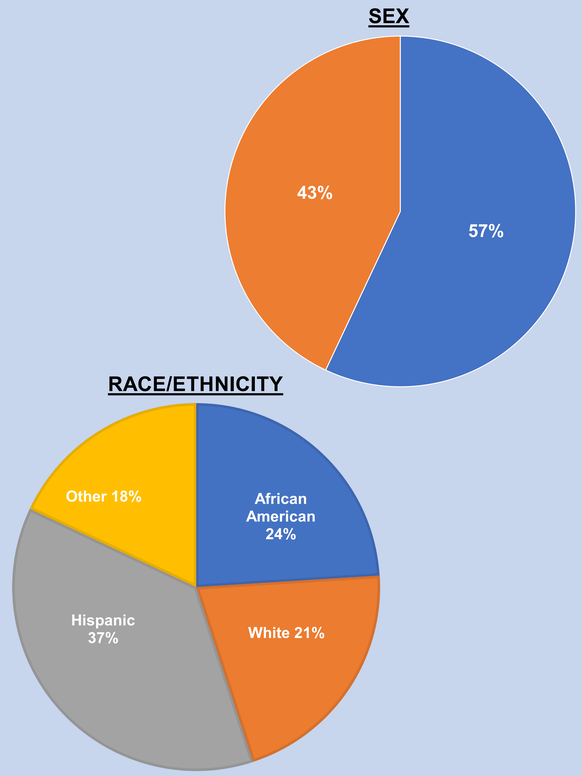

Table 1. Sociodemographic variables

Location of the disease	Pancolitis	53%
	Left sided colitis	35%
	Proctitis	11%
Medication used at index event	None	58%
	ASA-5	26%
	Sulfasalazine	6%
	Budesonide	4%
	TNF alfa inhibitors	1%
	Thiopurines	4%
	Other	1%
History of bowel resection	Yes	2%
	None	98%
Insurance type	Medicaid	41%
	Medicare	26%
	Private	33%
Type of steroid use	Prednisone (PO)	89%
	Methylprednisolone (IV)	11%
Reason for use of corticosteroid other than IBD flare	No	90%
	Yes	10%
Type of biologic started after corticosteroids	TNF alfa inhibitor	27%
	Integrin receptor antagonist	15%
TNF alfa inhibitor	Infliximab	21%
	Adalimumab	6%
Integrin receptor antagonist	Vedolizumab	15%
Time from index event to biologic start date	1 month	11%
	1- 6 months	25%
	>6-12 months	4%
	> 1 years	2%

Table 2. Multivariate logistic regression. remission at 30 days

30 days end point		Odds ratio (OR)	Confidence Interval (CI)
Sex	No remission	3.18	0.11 - 6.3
	Partial	0.62	-1.70 - 2.9
	Complete	2.56	0.42 - 4.7
Race /Ethnicity	No remission	0.39	-0.32 - 1.1
	Partial	2.2	-0.71 - 5.1
	Complete	0.09	-0.34 - 0.52
Insurance type	No remission	-0.46	-3.24 - 2.32
	Partial	0.20	-1.21 - 1.60
	Complete	0.27	-0.95 - 1.48
Age	No remission	0.08	0.003 - 0.15
	Partial	4.16	0.49 - 7.83
	Complete	0.044	0.01 - 0.1
IBD location	No remission	-1.35	-11.96 - 9.3
	Partial	-0.13	-2.6 - 2.36
	Complete	1.11	-0.96 - 3.2

Table 2. Multivariate logistic regression, remission, colectomy and corticosteroid dependency at 1-year

1 year end point		Odds ratio (OR)	Confidence Interval (CI)
Sex	Prolonged remission	0.6	-0.68 - 1.88
	Corticosteroid persistent	-0.9	-2.90 - 1.1
	Surgical resection (Colectomy)	-15.3	-3173 - 3142
Race/ Ethnicity	Prolonged remission	0.28	-0.61 - 1.17
	Corticosteroid persistent	2.7	-1.05 - 6.48
	Surgical resection (Colectomy)	0.28	-0.61 - 1.17
Insurance type	Prolonged remission	-0.16	-1.8 - 1.5
	Corticosteroid persistent	0.25	-1.51 - 2.0
	Surgical resection (Colectomy)	-1.18	-5.1 - 2.7
Age	Prolonged remission	0.015	-0.02 - 0.05
	Corticosteroid persistent	1.61	-1.55 - 4.8
	Surgical resection (Colectomy)	0.003	-0.07 - 0.08
IBD location	Prolonged remission	1.45	-0.03 - 2.9
	Corticosteroid persistent	6.56	-4.96 - 18.1
	Surgical resection (Colectomy)	1.13	-1.47 - 3.7

DISCUSSION

Rates of corticosteroid persistence and colectomy are different than previously reported in the pre-biologic era with only 13% and 3% at 12 months, respectively. Our results differ significantly from Faubion and colleagues suggesting overall changes in IBD care since that publication. No association was observed among racial/ethnicity, insurance type, and short and long-term outcomes of interest.

REFERENCES

1. Faubion, William A., et al. “The Natural History of Corticosteroid Therapy for Inflammatory Bowel Disease: A Population-Based Study.” *Gastroenterology*, vol. 121, no. 2, Elsevier BV, Aug. 2001, pp. 255–60. *Crossref*.