

DOES THE PRESENCE OF SPECIFIC ALARMING SYMPTOMS AFFECT THE LENGTH OF STAY IN PATIENTS WITH DIAGNOSED WITH ULCERATIVE COLITIS?

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BACKGROUND

Inflammatory Bowel Disease is an expensive disease due to the increased burden of hospitalization. It is imperative to identify factors that increase length of stay (LOS) to understand the underlying adverse outcome and proactively treat them. We hypothesize that a patient's LOS may be dependent on presentation of several key "alarming symptoms."

METHODS

The National Inpatient Sample 2001-2013 database was queried for ulcerative colitis (using International Classification of Disease, Ninth Revision [ICD-9] codes). Alarming symptoms were identified as abdominal pain, anal fissure or fistula, anemia, blood in stool, diarrhea, family history of inflammatory bowel disease, fever, oral aphthae, rectal bleeding, and weight loss. A one-way analysis of variance (ANOVA) test was used to compare the mean LOS in the different biopsy methods, with a significance level set at $p < 0.001$.

RESULTS

The total study population was 222,730. The mean (M) LOS, standard deviation (SD), and sample size (n) for patients with: abdominal pain were M=4.01, SD=4.63, n=10,485, anal fissure or fistula were M=6.41, SD=6.61, n=3,326, anemia were M=6.36, SD=5.94, n=89,847, blood in stool were M=6.10, SD=6.559, n=37,742, diarrhea were M=5.33, SD=5.21, n=11,421, family history of IBD were M=5.12, SD=4.25, n=1,754, fever were M=5.96, SD=5.49, n=7,518, oral aphthae were M=6.55, SD=5.40, n=530, rectal bleeding were M=5.71, SD= 6.89, n=16,390, weight loss were M=6.40, SD=5.50, n=8,731 and combination of these symptoms were M=6.02, SD=5.28, n=34,981. The ANOVA was significant at $p < 0.001$.

CONCLUSION

LOS is an important measure due to the health risks and financial burden each day has on the patient. Identifying factors that increase LOS, such as weight loss, are important to identify to mitigate and prevent unnecessary expenditure. It's also important to discover which symptoms may not be alarm symptoms and are not associated with increased LOS such as abdominal pain.

Table 1. Average Length of Stays for Patients with Specific Alarming Symptoms

Variable	N	Mean (95% CI)	Std. Dev(Std. Err)
Abdominal Pain	10, 485	4.01 (3.93-4.10)	4.63 (0.05)
Anal Fissure/Fistula	3,326	6.41 (6.19-6.64)	6.61 (0.12)
Anemia	89,847	6.36 (6.32-6.40)	5.94 (0.02)
Blood in stool	37,742	6.10 (6.04-6.17)	6.56 (0.03)
Diarrhea	11,421	5.33 (5.23-5.42)	5.21 (0.05)
Family Hx of IBD	1754	5.12 (4.92-5.32)	4.25 (0.10)
Fever	7,518	5.96 (5.83-6.08)	5.49 (0.06)
Oral Aphthae	530	6.55 (6.09-7.01)	5.40 (0.23)
Rectal Bleeding	16,390	5.71 (5.60-5.81)	6.89 (0.05)
Weight loss	8,731	6.40 (6.28-6.51)	5.55 (0.06)
Combination	34,981	6.02 (5.96-6.07)	5.28 (0.03)
Total	222,730	6.03 (6.00-6.05)	5.93 (0.01)

Table 2. Sum of squares, mean squares, and factor scores were calculated between alarming symptoms using One-way ANOVA.

	Sum of Squares	df	Mean Square	F	P-value
Between Groups	63,015.63	10	6,301.56	180.65	.000*
Within Groups	7,768,847.43	222,714	34.88		
Total	7,831,863.06	222,724			

*significance level $p < 0.001$