

Prevention of Venous Thromboembolism in IBD Patients May Not Be Associated

With Prophylaxis Rates

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Background

- Patients with inflammatory bowel disease (IBD) harbor a higher risk of deep venous thrombosis and venous thromboembolism (VTE) compared to healthy individuals.
- Previous studies, including a large meta-analysis, estimate the risk of VTE incidence to be almost 2-3 times baseline¹.
- Guidelines recommend VTE prophylaxis in most inpatients with IBD².
- Improving this important quality metric by perhaps implementing required VTE prophylaxis (when applicable) to admitted IBD patients can help ensure compliance with guidelines.

Objective

- Determine the rate of VTE prophylaxis at a quaternary academic medical center

Methods

- Retrospective chart review of inpatients with Crohn's disease or ulcerative colitis admitted to a tertiary medical center in Bronx, NY from 1/2015 to 2/2020 was performed.
- Patients who were admitted with a primary gynecological or psychiatric disorder, COVID infection, or known hypercoagulable disorder were excluded.
- Orders for pharmacologic and mechanical VTE prophylaxis at any point during the patient's admission were abstracted.
- Using ICD10 codes, IBD patients with acute VTE events during their hospital course were identified.
- Clinical and demographic variables were analyzed for their association with VTE prophylaxis.

Table 1. Proportion of DVT/PE incidence

	Proportion	95% CI
Overall	98/1600 = 6.2%	4.9%-7.3%
Prophylaxis = No	3/388 = 0.8%	0.2%-2.2%
Prophylaxis = Yes	95/1212 = 7.8%	6.3%-9.4%

Results

- A total of 1670 patients with IBD were identified among whom 1280 (76.7%) were prescribed either pharmacological or mechanical VTE prophylaxis during their hospital admission.
- 70 patients were excluded from the analysis of VTE development because their diagnosis of VTE was *prior* to their admission date.
- Older age (p<.0001), higher BMI (p<.0001), female sex (p=.001), having Medicare insurance (p<.0001) were associated with VTE prophylaxis ordering.
- There was a VTE incidence of 6.2% (n=98/1600) of the IBD patients in our cohort, with 3/388 patients (0.8%) not being prescribed prophylaxis and 95/1212 (7.8%) being prescribed prophylaxis (p<0.001).

Conclusions

- Contrary to other studies, we show that VTE prophylaxis rates may not be associated with a reduction in VTE incidence during hospitalization.

Table 2. Bivariate association of demographical variables with prophylaxis

	Prophylaxis		P-value
	Yes (n = 1280)	No (n = 390)	
Age, mean (SD)	61.91 (19.85)	42.73 (24.39)	<.0001
BMI, mean (SD)	28.11 (8.74)	25.60 (6.15)	<.0001
Sex			0.001
Female	726 (56.7)	185 (47.4)	
Male	554 (43.3)	205 (52.6)	
Ethnicity			0.79
Hispanic	502 (39.2)	160 (41.0)	
Not Hispanic	662 (51.7)	194 (49.7)	
Unknown	116 (9.1)	36 (9.2)	
Insurance			<.0001
CMO	5 (0.4)	0 (0)	
COMMERCIAL	263 (20.6)	111 (28.5)	
MEDICAID	360 (28.1)	170 (43.6)	
MEDICARE	615 (48.1)	91 (23.3)	
SELF PAY	37 (2.9)	18 (4.6)	

Future Research

- Are IBD patients so hypercoagulable that usual VTE prophylaxis dosing is insufficient?

References:

1. Fumery, Mathurin et al. "Thromboembolic events and cardiovascular mortality in inflammatory bowel diseases: a meta-analysis of observational studies." *Journal of Crohn's & colitis* vol. 8,6 (2014): 469-79. doi:10.1016/j.crohns.2013.09.021
2. Kaddourah O, Numan L, Jeepalyam S, Abughanimeh O, Ghanimeh MA, Abuamr K. Venous thromboembolism prophylaxis in inflammatory bowel disease flare-ups. *Ann Gastroenterol.* 2019;32(6):578-583. doi:10.20524/aog.2019.0412