



CLINICAL SIGNIFICANCE OF COLONIC WALL THICKENING ON COMPUTED TOMOGRAPHY SCAN IN INPATIENTS: RETROSPECTIVE STUDY FROM A COMMUNITY HOSPITAL

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BACKGROUND

- Colon wall thickening (CWT) is one of the common reasons for Gastroenterology consults both in inpatient and outpatient settings, owing to the widespread use of computed tomography (CT) scans for assessment of gastrointestinal (GI) complaints.
- Often these patients undergo colonoscopy due to the concerns of delaying a potential cancer diagnosis. As of now there are neither guidelines on how to manage these patients nor clear consensus on which factors predict a cancer in a patient with CWT. We aim to evaluate this.

Methods

- We identified 116 patients who had CWT on CT scan of the abdomen with intravenous and oral contrast that was performed for various GI complaints, and subsequently underwent colonoscopy for further evaluation between January 2021-2022. Patients with definitive CT evidence of malignancy like colonic mass, metastases were excluded from the study. However, patients in who CT was inconclusive for underlying mass, i.e., possible mass/underlying mass cannot be excluded, are included. Variables listed in table 1 were assessed by univariate and multivariate analysis as appropriate.

Results

- Patients with normal colonoscopy or those with diverticulosis, hemorrhoids, adenoma without malignancy irrespective of size and number were grouped as non-significant pathology, and those with malignancy, IBD, ischemic colitis were grouped as significant pathology. Out of 116 patients, 54 (46%) had inpatient colonoscopies. Among the 116 patients, 75 (65%) had colonoscopy without findings that could explain bowel wall thickening; 44 (38%) normal/ uncomplicated diverticulosis or hemorrhoids, 18 (16%) had adenoma of <1 cm and 13 (11%) had adenoma of >1cm. 41 (35%) patients had findings that could potentially explain BWT; 21 (18%) had newly diagnosed cancer, 14 (12%) with inflammatory bowel disease of which 3 were newly diagnosed and 6 (5%) patients had ischemic colitis. Of the 21 newly diagnosed colon cancer patients, 5 never had a colonoscopy. The mean duration of last colonoscopy was 8±3 years. Figure 1 depicts the colonoscopy findings in each segment of the colon corresponding to BWT.
- African American ethnicity, hemoglobin <11g/dL, weight loss, prior history of IBD, rectal bleeding as the cause of CT scan, years passed since last colonoscopy, CT inconclusive for mass were statistically significant on univariate analysis. On multivariate logistic regression weight loss (p<0.008, OR: 22, 95% CI: 2.2-220) IBD history (p<0.001) and years passed since last colonoscopy (p<0.03, OR: 1.3, CI:1.03-1.6) were statistically significant.

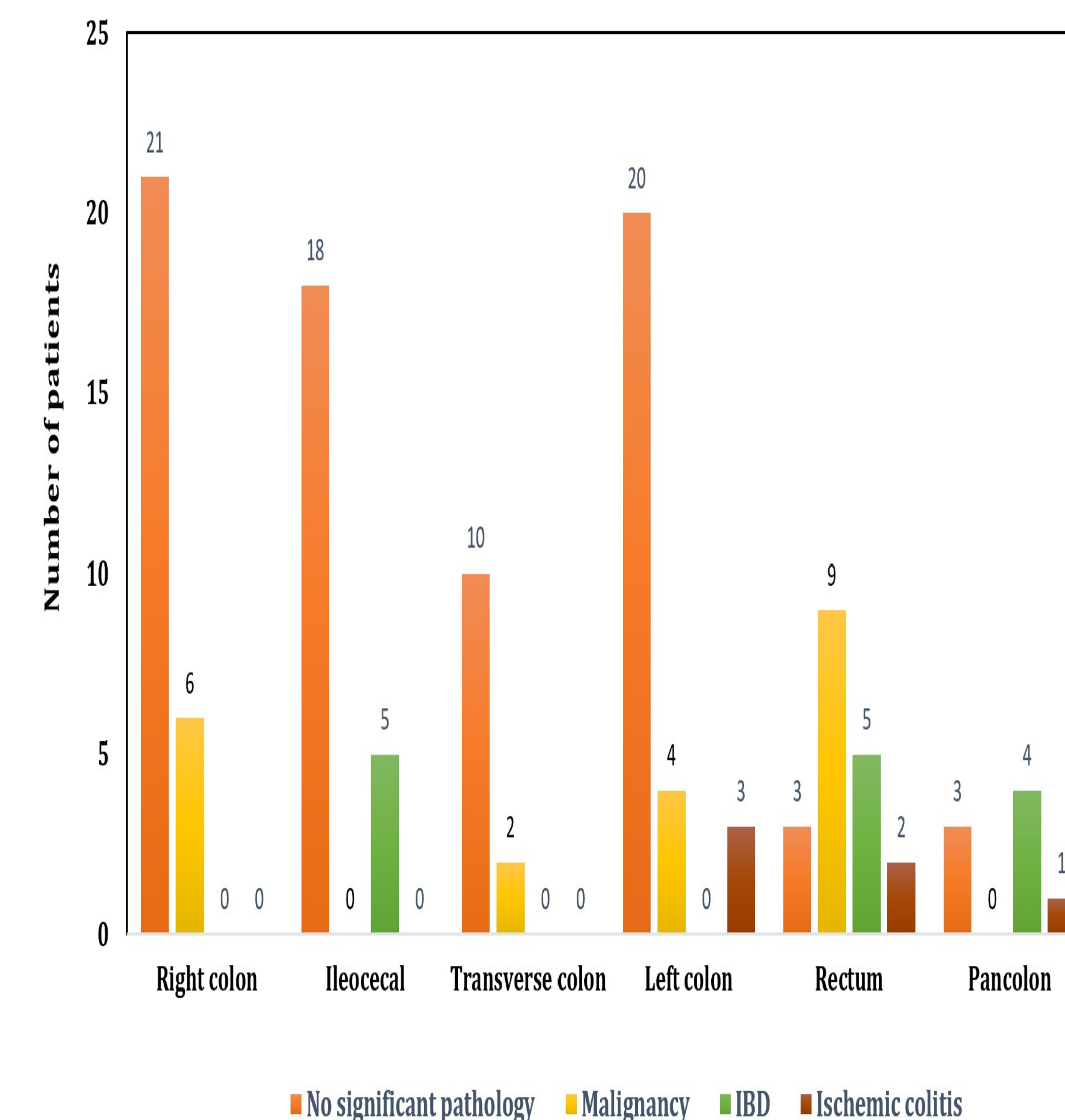
Table 1. Predictors of significant pathology on colonoscopy in patients with colon wall thickening on CT scan

Variable	Significant colonoscopy 35% (n=41)	Non-significant colonoscopy 65% (n=75)	OR 95% CI	P value
Univariate analysis				
Age [§]	69 (34-78)	55 (44-64)	1.02 (0.9-1.1)	0.6
Sex (females)	63 (26)	45 (34)	2(0.9-4.6)	0.06
Race				0.001
Caucasian	20 (8)	41 (31)	3.9 (0.9-17)*	0.006
African American*	56 (23)	31 (23)		
Hispanic	12 (5)	21 (16)		
Asian	12 (5)	7 (5)		
Hemoglobin <11 g/dL	78 (32)	16 (12)	19 (7-49)	0.0001
Weight loss	71 (29)	7 (5)	34 (11-105)	0.0001
Family h/o colon cancer	15 (6)	24 (18)	0.5 (0.2-15)	0.2
H/o IBD	19 (8)	1 (1)	27 (3.4-219)	0.002
Reason for CT scan				0.002
Abdominal pain	27 (11)	44 (33)	28 (6-142)*	0.0001
Diarrhea	7 (3)	11 (8)		
Rectal bleeding*	47 (19)	2 (2)		
Nausea, vomiting	7 (3)	11 (8)		
Combination of symptoms	12 (5)	32 (24)		
No prior colonoscopy	36 (15)	52 (39)		
Years since last colonoscopy [¶]	8±3	5±2	1.2 (1.1-1.4)	0.001
CT scan inconclusive for mass	41 (17)	16 (12)	4 (1.5-9)	0.003
Multivariate Analysis				
Weight loss			22 (2.3-220)	0.008
H/o IBD			205 (7.8-5380)	0.001
Years since last colonoscopy			1.3 (1.03-1.6)	0.03

§- Median and interquartile range

¶- Mean and Standard deviation

Figure 1. Colonoscopy findings corresponding to segment of bowel wall thickening



Conclusion

- In our study, bowel wall thickening in majority (65%) of the patients is nonspecific without malignancy or IBD on colonoscopy.
- Based on our analysis, we conclude that patients with weight loss (OR: 22), rectal bleeding (OR: 28), Hemoglobin<11g/dL (OR: 19), and more than 5 years since last colonoscopy (OR: 1.3) are more likely to have significant pathology when colonoscopy is performed for colon wall thickening on CT scan. Rest of the patients may be safely monitored.