

Comparison of the Effect of a Positive Stool DNA Test on Mucosal Inspection Time to Average Risk Screening Colonoscopy

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Objective

- Evaluate mucosal inspection time in patients with positive MT-sDNA testing in comparison to average-risk screening colonoscopy.

Background

- Longer withdrawal times correlate with increased rates of adenoma detection (ADR).
- Quality metrics focus on patients with polyps. Withdrawal time for procedures in which no polyps were detected represents the mucosal inspection time and can be a marker for high-quality colonoscopy.

Methods

- Study Design:** retrospective chart review of patients at a single tertiary care center who underwent colonoscopy for the indication of positive MT-sDNA stool test-based screening or screening based on average risk
- Inclusion Criteria:** patients without identification of a polyp during a complete colonoscopy
- Exclusion Criteria:** patients with poor preparation
- Data:** demographics, bowel preparation quality, time of day, day of the week, ASA grade, cecal intubation time, withdrawal time, complexity, fellow involvement
- Analysis:** multivariate analysis

Results

- Patient Populations:** Total n = 225, Positive MT-sDNA n = 58, Average Risk Screening n = 167

Table 1: Baseline Characteristics

	Positive MT-sDNA	Average Risk Screening	p-value
Age (Median, IQR)	66 (55 – 77)	59 (50 – 78)	< 0.04*
Female (n, %)	36 (62)	93 (56)	0.39
Race (n, %)			
- Caucasians	43 (74)	113 (68)	< 0.04*
- Hispanic	6 (10)	36 (22)	
- Black	2 (3)	3(2)	
- Other	7 (13)	15 (8)	
BMI (Mean ± SD)	28 (± 5.3)	28 (± 6.4)	0.70
Advanced to (n, %)			
- Cecum	40 (69)	109 (66)	0.65
- Terminal Ileum	18 (31)	57 (34)	
ASA Grade (n, %)			
- 1	8 (14)	50 (30)	0.04*
- 2	36 (62)	90 (54)	
- 3	14 (24)	27 (16)	
Bowel Preparation (n, %)			
- Good	56 (97)	154 (92)	0.25
- Fair	2 (3)	13 (8)	
Complexity (n, %)			
- Tortuous	5 (9)	3 (2)	< 0.04*
- Redundant	2 (3)	3 (2)	0.46
- Moderate or Severe Diverticulosis	5 (9)	14 (8)	0.95
Fellow Involved (n, %)	6 (10)	20 (12)	0.74
First Colonoscopy (n, %)	17 (29)	64 (38)	0.21

- No significant difference was noted between the two patient populations in time of day or day of the week.

Results Continued

Table 2: Unadjusted Outcomes

	Positive MT-sDNA	Average Risk Screening	p-value
Cecal Intubation Time (Median, IQR)	7 (2.7 – 22)	5.2 (1.5 – 18.9)	< 0.04*
Withdrawal Time (Mean ± 95% CI) (Unadjusted)	11 (10 – 12)	9 (8 – 9)	< 0.04*

- In a multivariable analysis, after adjusting for age, ASA grade, time of day, and cecal intubation time, the withdrawal time in the Positive MT-sDNA group was 2.6 minutes longer than in the Average Risk Screening group (95% CI 1.5 – 3.7, p < 0.04).

Discussion

- Our study demonstrated withdrawal times were longer in patients with positive stool MT-sDNA testing compared to average risk screening despite the lack of polypectomies.
- Mucosal inspection time may serve as an additional marker for high-quality colonoscopy and could be translated into a quality metric for all screening colonoscopies irrespective of risk.
- Future quality improvement studies may consider incorporating the mucosal inspection time metric for patients without polyps who are at average or high risk with the aim of reducing interval colorectal cancer.