Inappropriate Utilization of Fecal Immunochemical Test (FIT) in Inpatient and Emergency Setting and its Impact on Patient Outcomes: A Quality Improvement Project

Talia F Malik, MD[1]; Shreya Desai, MD[2]; Shubham Agarwal, MD[2]; Javairia Qureshi, MD[2]; Ammar Ahmed, MD[2]; David You, MD[3]

[1,2]Department of Internal Medicine, Chicago Medical School at Rosalind Franklin University of Medicine and Science, North Chicago IL

[3]Department of Gastroenterology, Captain James A. Lovell Federal Health Care Center, North Chicago IL

Introduction

- Fecal immunochemical test (FIT) uses antibodies to detect blood in stool and is indicated for colorectal cancer (CRC) screening.
- Positive FIT followed by colonoscopy significantly reduces mortality and morbidity associated with CRC.
- Inappropriate utilization of FIT testing can lead to unnecessary endoscopic evaluation.

Aim

- We evaluated the utilization of FIT in inpatient and emergency settings to determine the outcomes and impact on patient care.

Methods

- A retrospective observational study was conducted and electronic medical records of patients with a positive FIT between November 2020 to March 2021 at a large community-based hospital were reviewed.
- Primary outcome: proportion of FIT tests ordered for non-screening related indications.
- Secondary outcomes: gastroenterology (GI) referral, follow-up endoscopic evaluation, time to colonoscopy, and colonoscopy findings.
- Data was analyzed using descriptive statistics.

Table 1. Baseline characteristics of patients (n=45)

Characteristics		n(%)
Gender	Male	41 (91.1)
	Female	4 (8.9)
Age	<45 years	17 (37.8)
	45-75 years	17 (37.8)
	>75 years	11 (24.4)
BMI	<18.5	2 (4.4)
	18.5-24.9	15 (33.3)
	25-29.9	13 (28.9)
	30-39.9	15 (33.3)
Race	White	33 (73.3)
	Black	11 (24.2)
	American Indian	1 (2.2)
Time to Colonoscopy	<1 month	12 (57.1)
	1-6 months	8 (38.1)
	>6 months	1 (4.7)
FIT testing Location	Emergency Department	34 (75.5)
	General Medical Floor	9 (20)
	Intensive Care Unit	2 (4.44)

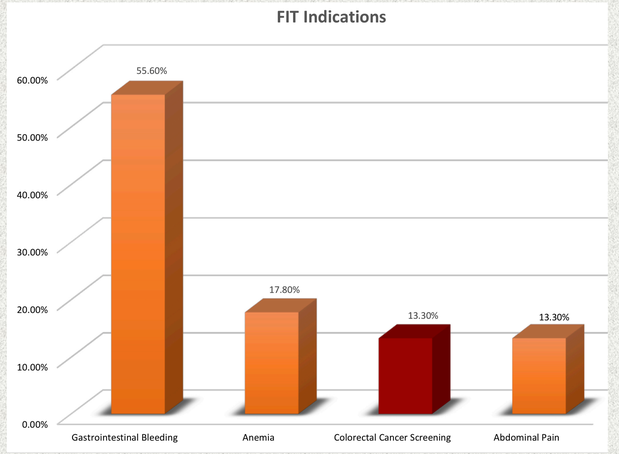

Figure 1. Indications for FIT testing in the inpatient and emergency setting.

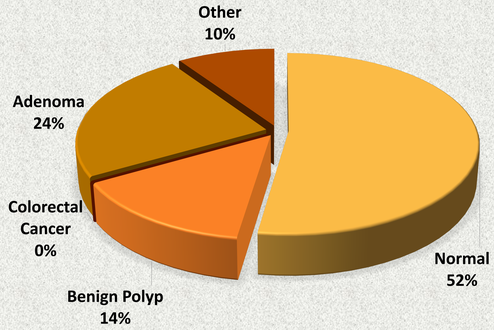

Figure 2. Colonoscopy findings in patients with a positive FIT in the hospital setting.

Results

- During the 5 month period, 45 patients had a positive FIT in the hospital setting. Among these patients 41 (91.1%) were male, and the median age was 58 years.
- The majority of tests were ordered by the emergency department (75.5%, n=34) followed by the general medical floor (20%, n=9) and intensive care unit (4.44%, n=2).
- The most common indication for ordering the test was gastrointestinal bleed (55.6%, n=25) and only 6 (13.3%) were ordered for CRC screening.
- Among patients with a positive FIT, 31 (68.9%) were referred to GI, 11 (24.4%) had an EGD, 21 (46.7%) had a colonoscopy and 10 (22.2%) had both (EGD and colonoscopy) within 12 months.
- Among those who underwent a colonoscopy the median time to colonoscopy was 9 days.
- Colonoscopy showed normal findings in most patients (52.4%, n=11), followed by adenoma detection in 5 patients (23.8%). No CRC was diagnosed in this cohort.

Discussion

- FIT was routinely ordered in the hospital setting for indications other than CRC screening and less than half of the patients received follow-up colonoscopy after a positive FIT. This can be attributed to a poor understanding of the test's purpose.
- Inappropriate FIT testing leads to unnecessary endoscopic evaluation and adds significant strain on healthcare resource utilization.
- We plan to implement measures to reduce this practice in these settings and improve colonoscopy completion rates after a positive FIT.