

EVALUATION OF A COLONOSCOPY REFERRAL FORM IN QUEBEC: WHICH INDICATIONS CARRIES A HIGHER RISK OF ADVANCED NEOPLASIA?

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Background: Patients referral for colonoscopy in the province of Quebec are organized through a standardized triage sheet that includes all indications categorized in 5 hierarchical scheduling priorities. In the context of a restricted access to colonoscopy, exacerbated by the COVID-19 pandemic, postponed elective endoscopies lead to potential diagnostic and therapeutic delays in patients with colorectal neoplasia. There is currently an important need to evaluate available tools to improve patients prioritization.

Aims: This study aims to determine CRC and advanced adenomas (AA) rates associated with indications of priority 3 (P3 fig.1). The secondary objective is to regroup and compare indications with higher and lower rate of CRC and AA.

Methods: This retrospective study included all adult patients who underwent a single diagnostic colonoscopy from March 2013 to March 2016 following a single FIT test in a tertiary teaching hospital. A literature review informed the adopted definition of higher-risk of CRC and AA according to P3 colonoscopy indications. These include: Positive FIT test (IN5), hematochezia in ≥ 40 years old patients (IN4), unexplained iron deficiency anemia (IN6) and symptoms suspicious of occult colorectal cancer (IN18). Lower risk P3 indications were defined as: suspicion of IBD (IN3), recent change in bowel habits (IN7), polyp viewed on imaging (IN17), inadequate bowel preparation (IN19), and diverticulitis follow-up (IN20). Higher and lower risk indications findings were analyzed.

Results: In our cohort of 2226 patients, indications for colonoscopy referral according to the standardized form were available for 1806 patients (10 P1, 69 P2, 1056 P3, 56 P4 and 615 P5). In our studied group of P3 indications, the mean age was 62.6 ± 11.3 years, 54.1% were female and 173 (16.4%) patients had a significant finding of CRC or AA (table 1). Patients referred for higher risk indications had a significantly increased rate of CRC and AA (19.3% vs 5.1% $p \leq 0.01$) compared to patients referred for lower risk indications.

Conclusions: A standardized colonoscopy referral tool may be adapted to improve prioritization of patients at risk of advanced neoplasia. These findings are especially

relevant in the context of limited access to colonoscopy like during a pandemic.

Table 1. Detection rate of neoplastic findings for P3 indications(%)

	Higher-risk indications				Lower-risk indications			
	IN4 (N=230)	IN5 (N=453)	IN6 (N=156)	IN18 (N=3)	IN3 (N=41)	IN7 (N=135)	IN17 (N=5)	IN20 (N=33)
Non-advanced adenomas (NAA)	47(20.4)	192(42.6)	41(26.5)	1(33)	5(12.2)	25(18.5)	4(80)	6(18.2)
Advanced adenomas (AA)	21(9.2)	116(25.7)	8(5.2)	0	1(2.4)	8(5.9)	0	1(3)
Serrated polyps	11(4.8)	42(9.4)	5(3.2)	0	0	6(4.5)	0	1(3)
Carcinoma (CRC)	5(2.2)	7(1.6)	6(3.9)	0	0	1(0.7)	0	0
AA and CRC	26(11.3)	123(27.2)	14(9.0)	0	1(2.4)	9(6.6)	0	1(3)

Indication for the colonoscopy (where requested, send results with referral)			
A- If presence of the following symptoms or abnormal results			Priority level ²
IN1	<input type="checkbox"/> Acute lower gastrointestinal hemorrhage (refer to Emergency department immediately) ³		P1 Immediate ≤ 24 hours
IN2	<input type="checkbox"/> High index of suspicion for cancer based on imaging, endoscopy or clinical exam (include reports and other results)		P2 Urgent ≤ 14 days
IN5	<input type="checkbox"/> Fecal occult blood test : Fecal Immunochemical Test (FIT) (include results)	IN7 <input type="checkbox"/> Recent change in bowel habits	P3 Semi-elective ≤ 60 days
IN3	<input type="checkbox"/> Clinical elements suggestive of active inflammatory bowel disease (IBD)	IN17 <input type="checkbox"/> Polyps viewed on imaging (include imaging report)	
IN4	<input type="checkbox"/> Hematochezia (anorectal bleeding with or without hemorrhoids) ≥ 40 years old	IN18 <input type="checkbox"/> Suspicion of occult colorectal cancer ⁵	
IN6	<input type="checkbox"/> Unexplained documented iron deficiency anemia (include complete blood count (CBC), iron saturation and ferritin)	IN19 <input type="checkbox"/> Inadequate bowel preparation – repeat colonoscopy	
IN10	<input type="checkbox"/> Hematochezia (rectal bleeding with or without hemorrhoids) < 40 years old ⁴	IN20 <input type="checkbox"/> Diverticulitis (post-acute phase)	P4 Elective ≤ 6 months
		IN12 <input type="checkbox"/> Chronic constipation <input type="checkbox"/> Chronic diarrhea (specify previous investigations)	
B- Colorectal cancer screening with a significant family history ⁶			
IN8	Family history of colorectal cancer or polyps ⁷ . Specify: <input type="checkbox"/> 1 first-degree relative ⁸ diagnosed before the age of 60 <input type="checkbox"/> 2 first-degree relatives ⁸ , regardless of the age when diagnosed <input type="checkbox"/> 1 first-degree and 1 second-degree relative ⁸ on the same family side, regardless of the age when diagnosed		P4 Elective ≤ 6 months 1 st colonoscopy For appropriate follow-up refer to the algorithms ⁴ .
C- Colorectal cancer screening for an average risk person without significant family or personal history ⁶			
IN11	<input type="checkbox"/> After discussion with the user, the referring physician still prescribes a colonoscopy despite availability of the FIT and its relevance as screening modality for colorectal cancer ¹⁰ . Result of the last FIT test: Date: Reminder: If FIT is negative, it should be repeated every 2 years.		P5 All other colonoscopy indications should be prioritized before scheduling screening colonoscopies

Figure 1: Provincial colonoscopy referral form in Quebec (AH-702)

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