THE FECAL IMMUNOCHEMICAL TEST (FIT): SELECTED ASPECTS REGARDING ITS EFFECTIVENESS FOR COLORECTAL CANCER SCREENING IN QUEBEC CITY.

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Background: The FIT has been used in Quebec since September 2013 in replacement for guaiac fecal occult blood test (gFOBT) as part of the province’s colorectal cancer (CRC) screening program (PQDCCR). Its value has already been ascertained elsewhere in Canada and worldwide. For instance, one Canadian study including the data from five provinces obtained a positive predictive value (PPV) of 4.3% for the detection of CRC in average-risk patients. The performance of the FIT needs to be assessed in our province, especially as we use a higher positivity threshold value than in most screening programs. Moreover, there seems to remain a gap between formal indications for a FIT and its actual use in clinical practice. Thus, this research aims to evaluate some aspects related to the effectiveness of the FIT in our setting and its application by prescribers.

Aims: The primary aim of the study was to determine the PPV for the detection of CRC, advanced adenomas (AA), and significant colorectal lesions (SCL, i.e. CRC and AA combined). The secondary aims of the study were to (i) examine the influence of specific variables on the test's PPV, such as age, sex, presence of alarm features, and adequacy of the prescription of a FIT, and (ii) identify the FITs that were unjustified, i.e. that were requested for other than asymptomatic, average CRC risk patients.

Methods: Using the software Endoworks® (Olympus®), in which all colonoscopy reports are saved, we identified retrospectively all colonoscopies conducted for a positive FIT in 2014 at two reference centers of the PQDCCR in Quebec City. We then reviewed manually every corresponding medical record to complete data collection.

Results: 559 colonoscopies were reviewed. We obtained PPVs of 6.8% and 46.9% for the detection of CRC and AA, respectively. The PPV for the detection of SCL was 56.1% among men and 45.0% among women (OR 1.56, 95% CI 1.11 – 2.20), whereas it was 59.5% among justified FITs and 43.9% among unwarranted ones (OR 1.88, 95% CI 1.34 – 2.63). Results for AA detection were similar to those of SCL. The PPV for the detection of CRC was 25.0% in the presence of an unexplained iron deficiency anemia and 6.5% when anemia was absent (p=0.0058). In 49.9% of cases, the prescription of a FIT was inappropriate, most often due to macroscopic rectal bleeding.

Conclusions: The PPV of the FIT for detecting CRC is higher in our setting than in the rest of Canada, but the clinical significance of this difference is unclear. The test holds a better PPV for detecting SCL and AA among men, and when it is indicated according to PQDCCR recommendations. Unexplained iron deficiency anemia is associated with a higher rate of CRC detection. Half of the positive FITs were not indicated initially. Therefore, physicians should be made more aware of the appropriate use of the FIT.
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