Contribution of the OC Sensor immunoassay in comparison to the Hemoccult II guaiac-test in organized colorectal cancer screening

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Mots-clés	Colorectal cancer [9], Immunochemical test [10], Performance test [11], Screening [12]
Résumé en anglais	Colorectal cancer (CRC) is a major cause of cancer-related death of worldwide with high incidence and mortality rate, accessible to a screening program in France, first with guaiac- based fecal occult blood test (g-FOBT) then with fecal immunochemical tests (FIT), since 2015, because of better accuracy. The aim of our study was to compare the characteristics of screen-detected lesions in two successive CRC screening campaigns, using two different tests (Hemoccult II and OC Sensor) in the department of Maine-et-Loire, and to precise the performance of these tests [participation rate, detection rates (DR), positive predictive value (PPV)]. Participants, invited by CAP SANTE 49, with polyps or cancer at the colonoscopy after a positive screening test between 01/01/2013 and 31/12/2016 were included. A guaiac-based fecal occult blood test (g-FOBT) was used from January 2013 to December 2014 and a FIT was used from June 2015 to December 2016). 2575 participants, 642 in g-FOBT group and 1933 in FIT group had lesions. Participation rate was not different between tests ($p = 0.104$), whereas DR and PPV were statistically higher in FIT for all lesions (2.61, 95% CI [2.50-2.70] vs 0.93, 95% CI [0.90-1.00], $p < 0.0001$ and 64.84, 95% CI [63.10-66.60], 50.00, 95% CI [47.30-52.70], $p < 0.0001$ respectively). FIT detects more precancerous lesions (adenomas, $p < 0.001$, and advanced adenomas, $p < 0.001$) than g-FOBT but g-FOBT detects more serrated polyps ($p = 0.025$). AAs were more in right colon in FIT than g-FOBT ($p = 0.035$). No different participation rate was detected between FIT and g-FOBT but DR and PPV of all lesions was higher with FIT.
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