

Biological markers in colorectal cancer screening

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Beside fecal immunological test, new biological markers such as fecal immunochemical tests (FIT), stool-based multi-target DNA test and blood-based/stool-based micro RNA tests are becoming available. FIT is found to have superior to gFOBT test in its improved sensitivity and specificity for invasive cancer in the colon. However, a serial test is needed to monitor the progress.

Stool-based multi-target DNA test used a combination of FIT and DNA targeted mutation is now available. It has a superior result compared to FIT in the detection of early CRC. It is also found to have improved detection of advanced adenoma in the colon, although the sensitivity has room for improvement. The cost of this test is also a concern. No Asian data is available so far.

MicroRNA in the blood and stool have been utilised in the detection of CRC and advanced adenoma in the colon. As a single target (e.g. mi92, mi1125), these biomarkers are less favorable than the multi-targeted DNA test. However, combination of micro RNA test is under trial. It can also be combined with FIT and DNA mutations. The stability of micro RNA in blood and stool makes it a feasible test for routine cancer screening test.

Large scale validation studies and clinical trial comparing to FIT or colonoscopy would be needed in Asia.