FIT Performance in Early-Stage Colorectal Cancer—Letter

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We read with great interest the excellent article of Droste and colleagues on the assessment of the effect of higher cutoff levels of quantitative fecal immunochemical tests (FIT) on test positivity rate and detection rate of early-stage colorectal cancers (CRC; ref. 1). They reported that higher FIT cutoff levels substantially decrease test positivity rates with only limited effects on detection rates of early-stage CRCs.

Ottó and Németh have developed an immunochemical technique that is suitable for simultaneous analysis of 2 blood proteins—hemoglobin and albumin—in the fecal sample (2, 3). On the basis of the results of this immunochemical technique, Hungary became a pioneer in the application of FIT onto CRC pilot screening programs and this method was used effectively in pilot population-screening projects for early identification of CRC in Hungary: in Budapest (1997–1998, n = 6,513) and in Ajka (2003–2004, n = 3,996; ref. 4).

In the 2 Hungarian pilot projects (n = 10,509), the sensitive guaiac-based fecal occult blood test was positive in 3,015 (29%) individuals. In the second phase, immunochemical testing of hemoglobin and albumin was positive in 698 (7%) individuals, 541 (76%) of whom were referred for colonoscopy and 157 (23%) were lost to follow-up. CRC was identified and confirmed histologically for 25 (5%) people; 15 of whom had early-stage disease (in situ carcinoma or Dukes stage A). One hundred twenty-six (23%) people had high-risk adenomatous polyps (4).

At a 200 ng/mL cutoff level, there was a 90% sensitivity and 98% specificity of FIT test for CRC cases. Using the same cutoff level, we found a combined 53% sensitivity and 92% specificity for large (>1 cm) adenomatous polyps and cancers (controlled by colonoscopy as gold standard).

In addition to its clinical benefit, the application of fecal immunochemical tests in pilot screening program for CRC proved to be cost-effective in health-economics term, which is also with remarkable importance for health insurance reimbursement, especially in middle- and low-income countries (5).

Disclosure of Potential Conflicts of Interest

No potential conflicts of interest were disclosed.

Received March 28, 2011; accepted March 30, 2011; published online July 7, 2011.

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_Cancer Epidemiol Biomarkers Prev_ 2011;20:1562.

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