Sensitivity of FIT Depend Not on the Gross Morphology of Adenoma but on the Size of Adenoma

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Background/Aim: The sensitivity of FIT according to the gross morphologies of CRN remains unclear.

Methods: This study was to assess the sensitivity of FIT according to the gross morphologies and the size of CRN. Outpatients (40~90 years old) who gave an informed consent to this study were asked to perform a FIT on one bowel movement the day prior to colonoscopy from June, 2002 to July, 2009. The cut off value was 100 ng/mL according to the manufacturer’s instructions. Test results were compared with colonoscopy outcome as gold standard. Advanced adenoma (AA) was defined as ≥1 cm in diameter and/or villous architecture and/or high-grade dysplasia or intramucosal cancer. In case of multiple adenomas, the adenoma with the largest size was selected as the representative adenoma. The chi-square test was used to determine statistical significance (p<0.05).

Results: Among 1280 average-risk subjects (mean; 60 years, male 783 (61%) who underwent total colonoscopy, 545 CRNs including 265 non-advanced adenoma, 137 AAs and 18 intramucosal cancer were diagnosed. The OC-sensor at cut off 100 ng/mL was positive in 25.8% (330/1280) of subjects and overall sensitivity for CRN was 35.4%. The sensitivities of FIT were 17.4% (25/144) in Is adenomas, 30.0% (18/60) in Ip, 30.0% (6/20) in flat adenomas, and 30.0% (6/20) in laterally spreading tumor (LST >2 cm), and were not significantly different according to the gross morphologies. However, we found that the sensitivities of FIT increase with the adenoma size, the bigger the higher; 18.6% (52/279) in 1~9 mm sized adenomas, 26.5% (26/98) in 10~19 mm, and 50.0% (18/36) in adenomas >2 cm.

Conclusion: The size of adenoma was a major determinant for the sensitivity of FIT, but the non-polypoid or polypoid gross morphology of colorectal adenoma did not affect the sensitivity of FIT. These results suggest that FIT as a screening tool for CRN, is useful to detect non-polypoid adenomas as well as polypoid ones.

Key Words: Fecal occult blood test, Colon cancer, Sensitivity

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