A combination of faecal tests for the detection of colon cancer: a new strategy for an appropriate selection of referrals to colonoscopy? A prospective multicentre Italian study.


Abstract

INTRODUCTION:
Colonoscopy workload for endoscopy services in Western countries is increasing markedly because of the implementation of faecal occult blood-based mass screening programmes against colorectal cancer (CRC). We therefore explored the possibility of using a combination of faecal tests to prioritize the access to colonoscopy with criteria other than symptoms and/or time of referral.

AIMS AND METHODS:
We tested a combination of faecal tests [immunochemical faecal occult blood test (i-FOBT), M2-PK, calprotectin] as markers for advanced neoplasia in a selected series of patients requiring colonoscopy for the suspicion of CRC. All the tests were performed in a 1-day stool sample of patients aged 50-80 years, without any dietary restriction, before colonoscopy.

RESULTS:
A total of 280 patients' stool single samples were analysed. Forty-seven patients had CRC and 85 patients had one or more advanced adenoma(s) at colonoscopy/histology. CRCs were associated with a highly significant increase (P<0.001) in faecal tumour M2-PK (mean 24.2 kU/l), which correlated with Dukes' staging. For CRC detection, i-FOBT was the test with the highest specificity and positive predictive value (0.89 and 0.53), whereas M2-PK had the highest sensitivity and negative predictive value (0.87 and 0.96). Calprotectin showed performance similar to M2-PK in terms of sensitivity and negative predictive value (0.93), but had lower specificity (0.39). The best combination of tests to predict the risk of CRC in this series was i-FOBT+M2-PK, as in patients showing positivity to both markers, the risk of cancer was as high as 79%.

CONCLUSION:
The combination of i-FOBT and M2-PK is a sensitive tool in clinical practice for the appropriate management of waiting lists for colonoscopy, as it allows the classification of patients into different degrees of priority for investigation, according to their foreseeable risk of CRC.