Rectal bleeding and colorectal cancer in general practice: diagnostic study

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Although most cases of rectal bleeding are due to local conditions, this symptom is a major sign of colorectal cancer. Little research exists on whether to refer a patient with rectal bleeding for further evaluation.1,2 We therefore studied the diagnostic value of rectal bleeding in relation to a subsequent diagnosis of colorectal cancer.

Subjects, methods, and results

In Belgium, a network of sentinel practices, covering 1% of the population, registers epidemiological data.3 The methods used to estimate the denominator (in patient years) have been published.4

We analysed data on all patients with colorectal cancer diagnosed in 1993–4 to evaluate sensitivity (retrospective study). We chose rectal bleeding as the reason for visiting a general practitioner before colorectal cancer was diagnosed as the main outcome measure.

To obtain a positive predictive value (prospective part of study), we included all patients presenting with rectal bleeding in 1993–4. Our reference standard was colorectal cancer diagnosed during a clinical follow up of 18–30 months. Investigations, such as endoscopy, were not systematically performed. To obtain the number of all new cases of cancer, we sent recall letters to the practices every six months and at the end of the study (retrospective study). We chose rectal bleeding as an indicator of colorectal cancer. Stratification was made for age, sex, and additional signs or symptoms by comparing the sensitivity, specificity, and positive predictive values in patients with and without each variable.

We estimated the effect of the variables of age, sex, and additional signs or symptoms by comparing the sensitivity, specificity, and positive predictive values in patients with and without each variable.

We recorded 83 890 patient years. Overall, 106 patients had colorectal cancer (table), and of these 31 had visited their doctor with rectal bleeding in the weeks preceding the diagnosis. Sensitivity was 29.2% (95% confidence interval 20.8% to 38.8%). We found no relation between sensitivity and age.
Of 386 patients with rectal bleeding, 27 had colorectal cancer, giving a positive predictive value of 7.0% (4.6% to 10.0%). The positive predictive value strongly increased with age (table). Positive predictive values in patients with additional other symptoms were: 0% (0% to 10.2%) for pain, 5.4% (2.0% to 11.4%) for spasms, 7.1% (8.3% to 15.8%) for fatigue, 16.0% (4.5% to 36.1%) for weight loss, and 31.5% (12.5% to 56.5%) for palpable tumour.

The negative predictive value and specificity were 99.9% and 99.5% respectively. The likelihood ratio was 68.3 (49.9 to 93.4) for presence of rectal bleeding and 999 (999 to 999) for its absence.

Comment

Although most cases of rectal bleeding are due to self limiting diseases, the probability of colorectal cancer increases greatly in both people older than 60 years and in association with fatigue, weight loss, or a palpable tumour, indicating the need for a more thorough investigation in such instances. People, particularly those older than 60 years, should be better informed and encouraged to seek medical advice if rectal bleeding occurs. However, a negative likelihood ratio of 0.71 indicates that absence of rectal bleeding is not predictive for the absence of cancer.

A follow up period of 18-30 months is acceptable because colorectal malignancy is not self limiting and would progress to overt disease within this period. The completeness of our data is supported by the similarity of our data on incidence (63/100 000 patient years) with that of the Limburg Cancer Registry (men 63/100 000, women 47/100 000). 3

We thank Professor Jan Vandenbroucke, department of clinical epidemiology, University of Leiden (Netherlands) for his remarks on the epidemiological analysis of the data.

Contributors: FB and VVC designed the study, VVC is the coordinator of the network and was responsible for data collection, presentation, and approval of the first report. FB supervised the analyses; he will act as guarantor for the paper. All authors discussed the results and approved the final report.

Funding: The Belgian sentinel practices network is funded by the Flemish and French Community government.

Competing interests: None declared.

References


(Accepted 12 May 2000)