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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.[1-3] 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.[4] 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 follow up period.

Patients were recorded as having rectal bleeding if they mentioned to their doctor of any blood of rectal origin on stool, underwear, or toilet paper, irrespective of the duration. Colorectal cancer was defined as any histologically confirmed malignancy of the colorectum.

Positive predictive values of rectal bleeding for diagnosis of colorectal cancer, stratified for age

Age group	Rectal bleeding: All	Rectal bleeding: With colorectal cancer	Positive predictive value (95% CI)
≥80	51	3	5.8 (1.2 to 16.2)
70-79	66	14	21.2 (12.0 to 33.0)
60-69	71	8	11.2 (5.0 to 21.0)
50-59	57	1	1.7 (0 to 9.4)
<50	141	1	0.7 (0 to 4.9)
Total	386	27	7 (4.6 to 10.0)

Associated signs and symptoms that were recorded were fatigue, weight loss, pain, or cramps mentioned to the doctor and a palpable rectal tumour. Ethical approval for our study was obtained from the local ethics committee.

We calculated sensitivity and positive prospective values from the retrospective and prospective data, and we estimated negative predictive values and specificity on the basis of both results. We estimated the effect of the variables of age, sex, and additional signs or symptoms by comparing the sensitivity, specificity, and 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 0.7 (0.6 to 0.8) for its absence.

Comment

Although most cases of rectal bleeding are due to self limiting diseases, the probability of colorectal cancer increases greatly both in 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).[5]

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

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Untied

Dress code in medicine has always been important, perhaps dating from the 1856 Medical Act when barber surgeons needed to establish their respectability and equal standing with their Harley Street colleagues. For me, as an unreconstructed scruff, it has been a problem since medical school days. As London clinical students in the 1960s we heard dark tales of students being sent home from St Thomas's down the road for not wearing suits with matching shoes. At liberal University College Hospital we were not exactly flower power, but we prided ourselves on a relaxed attitude towards jackets and woolly jumpers. For the men, though, ties were still de rigueur on the wards.

Evidence based medicine reveals that patients like their doctors to look respectable (bmj.com/cgi/content/full/320/S3-7230). It would have been unthinkable for a male doctor progressing through the hospital grades in the 1970s to appear without a tie, although medical students were increasingly idiosyncratic in their dress. When I was doing a Saturday GP locum in casual clothes, but still with a tie, a patient told me archly, "This is the first time I have ever been treated by a doctor in jeans." She seemed to find it more amusing than disreputable.

Different medical specialties subtly proclaim themselves via dress code. A surgical colleague told me that he could always pick out the psychiatrists in the canteen by their corduroy suits—especially if bottle green. This from someone who had just come back from a year's sabbatical in Australia, who also told me that Hawaiian shirts and Bermuda shorts are commonly to be found there on professorial ward rounds. I reminded him that he and his anaesthetist colleagues often appeared at lunch in their operating pyjamas.

Clothing is eloquent: sometimes our sartorial vernacular says, "Ignore my clothes, I am saving lives"; sometimes, "Trust me, I am a pillar of the establishment"; occasionally, perhaps, "I am making lots of money, so I must be good." Recently, I encountered a distinguished cardiothoracic surgeon doing his Sunday rounds in the intensive care unit in track shoes and muddy jogging bottoms, which, it seemed to me, proclaimed modestly, "I too am human, all that matters is skill and compassion and vigilance."

Now to my continuing struggle with the tie. I hate the things, constricting and functionless in our overheated hospitals. For most of my working life I have dutifully worn one, ripping it off the moment I left for home at the end of the day (a spell in east Africa being the exception where not to be open necked was to risk heat exhaustion). Then, a few years ago, the rot began to set in. I started to allow myself a tieless, shirtsleeve drill in August. When speaking at conferences I began to carry my tie in my pocket, donning it just before mounting the podium. Finally, I suddenly decided that it was time to come out completely, and wear my elderly and wrinkled neck with pride.

Near enough to retirement to get away with it, I am almost always untied, except, naturally, when due to be questioned by the Mental Health Act Commission. Colleagues vary in their reactions. Some come up to me and whisper their support. Others say they enjoy their ties—one, recently remarried, now sports a different strip of sleek and colourful silk for each day of the week. I remain unrepentant, fondly hoping that the "tie-de" is turning. Hence, I hereby announce a national "tie off" campaign for male doctors. Members will be issued with a suitable neck garment, to be worn only at annual conventions, over a bare chest.

Jeremy Holmes *consultant psychiatrist/psychotherapist, north Devon*

We welcome articles of up to 600 words on topics such as *A memorable patient, A paper that changed my practice, My most unfortunate mistake*, or any other piece conveying instruction, pathos, or humour. If possible the article should be supplied on a disk. Permission is needed from the patient or a relative if an identifiable patient is referred to. We also welcome contributions for "Endpieces," consisting of quotations of up to 80 words (but most are considerably shorter) from any source, ancient or modern, which have appealed to the reader.