

# Delay in consulting a medical practitioner about rectal bleeding

Julie E Byles, Selina Redman, Deborah Hennrikus, Robert W Sanson-Fisher, James Dickinson

## Abstract

**Study objective**—The aims were to estimate the incidence of rectal bleeding in the community, and to determine the proportion of individuals who delay or fail to seek medical advice after a first episode of rectal bleeding.

**Design**—The data were collected as part of a large scale general population survey of the health practices and attitudes of individuals in a randomly selected sample of 2121 households.

**Setting**—The survey was conducted in the Newcastle and Lake Macquarie areas of New South Wales, Australia, during 1987-88.

**Participants**—Information about rectal bleeding was collected from 1213 individuals aged 40 years and over.

**Measurements and main results**—Of the 1213 people aged 40 years and over, 239 (20%) reported noticing rectal bleeding at some time in their life. However, since an estimated 4.5% had noticed rectal bleeding for the first time in the past year the true lifetime incidence of rectal bleeding is likely to be much higher. Of the 77 individuals who had noticed a first occurrence of rectal bleeding more than three months but less than five years prior to the interview, 23 (30%) had either not sought medical advice or had only done so after a period of delay. The most commonly reported reason for delay or failure to consult was thinking that the bleeding was not serious and would clear up by itself.

**Conclusions**—The data suggest that prompt investigation of rectal bleeding is not occurring in a relatively large proportion of cases. However, in the absence of firm evidence that early detection improves prognosis, and considering the costs of screening, it would be premature to initiate programmes which encourage people to seek care promptly for this symptom.

In an attempt to promote earlier diagnosis and treatment of colorectal cancer, many cancer societies advocate that all people aged 40 years and over who notice rectal bleeding should be promptly and thoroughly investigated.<sup>1 3</sup> However, since little is known about the incidence of rectal bleeding in the community or the proportion of people with rectal bleeding who seek medical advice, the practicality and impact of such recommendations is unknown.

Studies of people who are apparently well have shown that rectal bleeding has a relatively high

prevalence in the general population.<sup>4-9</sup> In one survey, 16% of individuals aged 30 years and older reported that they had experienced rectal bleeding over a six month period.<sup>7</sup> However, because it is not known whether these people were experiencing rectal bleeding for the first time, or whether the bleeding was associated with known pathology, it is impossible to estimate the proportion of these individuals who would require evaluation of the cause of bleeding.

The proportion of individuals who delay or fail to seek medical attention for a first occurrence of rectal bleeding, and therefore the need for campaigns to promote awareness of the significance of rectal bleeding, is also unknown. One retrospective study of patients with colorectal cancer indicated that a substantial proportion of individuals notice rectal bleeding for more than three months prior to presentation for medical care.<sup>10</sup> Analysis of the reasons for delay among this population provides some understanding of the factors inhibiting early investigation of rectal bleeding and clues to ways in which these barriers may be overcome. However, since this study was confined to examining the behaviour of the small subpopulation of individuals who are diagnosed as having colorectal cancer, it offers little insight into the behaviour of the majority of people who experience rectal bleeding. Previous work suggests that 10-20% of all patients with cancer never consult a doctor with their symptoms.<sup>11</sup> This is supported by a one year longitudinal community survey which showed that only 47% of cancer related symptoms were reported to a medical practitioner.<sup>12</sup> If the same is true for rectal bleeding, a high proportion of individuals experiencing rectal bleeding for the first time will either fail to seek medical advice or only do so after a considerable period of delay.

The aims of this study were twofold. The first aim was to estimate the incidence of rectal bleeding in the community, and thereby provide some insight into the practicality of using the symptom as a marker of colorectal cancer. The second aim was to determine the proportion of individuals who delay or fail to present for medical advice after a first episode of rectal bleeding. This would allow an assessment of the need for more active campaigns to promote awareness of the significance of rectal bleeding and the importance of early investigation.

## PROCEDURE AND SAMPLE

The data were collected as part of a large scale general population survey of health practices and attitudes, conducted in the Newcastle and Lake Macquarie areas of New South Wales, Australia during 1987-88. The study population was

Behavioural Science  
in Relation to  
Medicine, Faculty of  
Medicine, University  
of Newcastle, Rankin  
Drive, Newcastle,  
NSW 2308, Australia  
J E Byles  
S Redman  
D Hennrikus  
R W Sanson-Fisher  
J Dickinson

Correspondence to:  
Ms Byles

Accepted for publication  
July 1991

recruited from a random sample of households which were selected using a sampling framework from the Australian Bureau of Statistics. Boarding houses, hotels, and nursing homes were not included in the sample, but caravan parks were. A household was defined as all those people living permanently at the postal address. Members of households were regarded as ineligible for the study if they were less than 15 years of age, if they did not speak English and no family interpreter was available, or if they were physically or intellectually incapable of completing the questionnaire. Refusals and excluded households were not replaced by additional sampling.

Interviewers personally approached each selected household and sought informed consent for the study from all eligible household members. Where a member was absent from the household two call back visits were made to seek consent from this member. In households where no-one was at home, a calling card was left and at least two call backs were made. Eligible consenting individuals were either interviewed at the time or appointments made for return visits. Basic demographic details were recorded for non-consenters. Household members who agreed to participate in the study were asked to complete a self administered questionnaire and participate in a structured interview conducted by a trained interviewer.

To reduce the potential for bias, individuals were not told the specific areas of health covered in the survey. This reduces the likelihood that individuals with rectal bleeding are over-represented by the study sample. Individual interviews were conducted in a private setting, preventing collaboration between study participants. It is therefore unlikely that individuals were prompted, or inhibited, by the presence of other family members. In some instances, individuals from the same household were interviewed on separate occasions. These participants may have been primed by discussion during the intervening period. However, this is unlikely given that the interview did not focus on any individual symptom, but covered a wide range of preventive health issues.

During the interview, participants who indicated on the questionnaire that they had ever noticed rectal bleeding were asked to recall when this had first occurred. Subjects who reported a first occurrence of symptoms within the past five years were asked whether they had consulted a medical practitioner about the symptom. This was done by recording the initial occurrence of rectal bleeding on a time line. Respondents were

then asked to indicate the point at which they first consulted a doctor about this symptom. If there was an interval of more than three months between first noticing the bleeding and the initial consultation, respondents were asked the principal reason for this delay. Respondents who had first noticed bleeding more than three months prior to the interview, and had never consulted a health care provider, were asked to explain the main reason for not seeking medical advice. All questions were asked in open response format and coded by the interviewers according to pre-determined response codes. Interviewers did not prompt participants by providing them with response options.

Since the potential for noticing rectal bleeding is increased if people regularly, and purposefully, check their bowel motions for blood, all respondents were asked to record how often they checked their bowel motions, the toilet bowl, or toilet paper for any signs of blood. Response options were: every time you pass a bowel motion; once a week; once a month; less than once a month; and never.

## Results

### CHARACTERISTICS OF THE STUDY SAMPLE

A total of 2121 households were approached. Of these, 148 were unoccupied or no-one was home throughout the study. The remaining 1973 households contained 3943 individuals aged 15 years or over. One hundred and thirty one (3%) of these individuals were excluded from the study because they were non-English-speaking ( $n=52$ ) or physically or intellectually incapable of completing the questionnaire ( $n=79$ ). Of the remaining 3812 subjects, 2619 agreed to participate in the study, giving a consent rate of 69%. The main reason for non-participation was inability to spare the 45–60 minutes required to complete the interview. Questions about delay in seeking medical care were introduced after the study was under way; the delay component of the research was made up of a subsample of 2254 individuals.

Since this present analysis is restricted to individuals aged 40 years and over, it is important to consider whether this subpopulation is represented by the study sample. In order to assess this, the age and sex of consenters were compared with those of non-consenters. Females were more likely to consent than males: 72% of females consented, compared to 66% of males ( $\chi^2 = 12.27$ ;  $df = 1$ ;  $p < 0.001$ ). There was no significant difference in consent between age groups among males. An age effect was observed among women ( $\chi^2 = 34.73$ ;  $df = 4$ ;  $p < 0.001$ ) with older women (aged 60 years and over) being less likely to consent than women in younger age groups. However, comparison of the age distribution of the study participants with 1986 census data for the study region<sup>13</sup> indicates that the study sample is not biased towards any particular age group. A comparison of demographic characteristics for individuals aged 40 years and over with census data for this age group is presented in table I. For these criteria, the differences between the study respondents and the census data are very small.

Table I A comparison of sociodemographic characteristics of study respondents ( $n=1221$ )\* and the 1986 census (respondents aged 40 years and over)

Characteristics	Study respondents n	Study respondents %	1986 census %
Sex			
Female	681	56	51
Male	540	44	49
Age (years)			
40–49	370	30	28
50–59	289	24	26
60+	559	46	46
Country of birth			
Australia	1025	84	89
Other	184	16	11

\* Total possible  $n=1221$ . However, there were some missing data for each variable.

## INCIDENCE OF RECTAL BLEEDING

There were 1221 respondents aged 40 years and over, and 1213 provided information about the occurrence of symptoms. Two hundred and thirty nine [20%, 95% confidence interval (CI): 18%, 22%] of these individuals reported that they had noticed rectal bleeding at some time in their life. Only seven (3%) of these 239 individuals reported that they had had bowel cancer. Interviewers failed to ask 41 of the individuals reporting rectal bleeding about the symptom. This leaves a sample of 198 with delay information. Of these, 89 (45%, 95% CI: 38%, 52%) had noticed rectal bleeding for the first time in the past five years and 45 (23%, 95% CI: 17%, 29%) had first noticed bleeding in the past year. If we assume that 23% of the 239 people reporting rectal bleeding had their first occurrence in the past year, then we can estimate that 4.5% of all respondents aged 40 years and over noticed a first instance of rectal bleeding in the past 12 months.

The reported incidence of rectal bleeding was higher in the group who reported that they regularly checked for blood ( $\chi^2=5.93$ ,  $df=1$ ,  $p=0.015$ ). Of the 55% of individuals aged 40 years and over who reported that they checked their bowel motions, the toilet bowl, or the toilet paper at least once per week, 10% had noticed a first incident of rectal bleeding over the past five years. The reported incidence of rectal bleeding among the group who said that they checked less frequently or not at all was only 6%.

## DECISION TO CONSULT A MEDICAL PRACTITIONER

Twelve individuals reported a first incident of rectal bleeding within the preceding three months. At the time of interview, four of these individuals had consulted a medical practitioner. Since it was not known whether the remaining eight individuals would consult within three months, these 12 people were deleted from further analyses.

Of the 77 individuals who had noticed rectal bleeding more than three months but less than five years prior to the interview and were asked about their response, 61 (79%, 95% CI: 69%, 89%) had consulted a doctor, and 16 had not. Fifty four of these individuals reported consulting within three months of noticing bleeding. All told, 23 (30%, 95% CI: 19%, 41%) of these 77 people had either not sought medical advice or had done so only after a period of delay.

Stated reasons for delay or failure to consult are listed in table II. By far the most commonly reported reason was thinking that the bleeding was not serious and would clear up by itself. A few did not consult because the bleeding cleared up before they could consult their doctor. The second most frequently reported reason for delay or failure to seek care was the fear that the resulting tests would be unpleasant or embarrassing.

Table II Stated reasons for delay or failure to attend a medical practitioner

	n	%
Thought symptom wasn't serious/would clear up	12	52
Thought tests would be unpleasant/embarrassing	3	13
Symptom cleared up	2	9
Decided to wait and see	1	4
Little faith in doctors	1	4
Worried it might be serious	1	4
Already knew what the problem was	1	4
Missing	2	9

## Discussion

It is apparent from this survey that many incidents of rectal bleeding will never come to the attention of a medical practitioner or will only be reported after a considerable period of delay. This indicates that the community is not adhering to the advice of cancer societies to regard bleeding in people 40 years of age or over as potentially serious and worthy of full and prompt investigation. The question which arises, then, is whether public health authorities should devise and implement campaigns to promote early reporting and investigation of this symptom. It is generally agreed that patients aged 40 years and over who present with rectal bleeding should be thoroughly investigated to exclude colorectal carcinoma.<sup>3 14</sup> Should we not then be advising individuals in the community of the potential seriousness of this symptom and the need for prompt and thorough investigation?

Unfortunately the answer to this question is far from clear. The first issue to consider is one of practicality. Approximately 4% of individuals of 40 years and over will experience a first occurrence of rectal bleeding in a 12 month period. Theoretically, if we advise that all these people should be investigated then this would mean that in NSW alone over 88 000 people would require a full colonic investigation each year. However, the actual incidence of rectal bleeding is likely to be somewhat higher than our estimate. Firstly, since our estimate was calculated from a retrospective survey of the population, instances of rectal bleeding may have been forgotten and therefore not reported. This is likely to explain the higher incidence of rectal bleeding in the 12 months preceding the survey (23% of reported cases) compared to the incidence for the previous five years. Secondly, the reported incidence of rectal bleeding is significantly higher in those who reported that they regularly check their stools for blood. While it is possible that individuals who inadvertently notice bleeding then begin to check more frequently, it is also possible that people who systematically check have a better chance of detection. Assuming the latter is true, if everyone aged 40 years or over checked their stools, the expected incidence might be considerably higher. Thus the increase in demand could be even greater than previously estimated.

It could be argued that colorectal cancer is such a serious health problem that the public health expenditure required to fund these investigations is justified. However there is as yet only circumstantial evidence that earlier diagnosis of symptomatic colorectal cancer will have any impact on mortality.<sup>15</sup> On the other hand, the costs of early detection are considerable. Investigation of all new cases of rectal bleeding will not only place a considerable burden on health services, but will also result in large numbers of the population being subjected to possibly unnecessary and potentially dangerous investigations. The predictive value of rectal bleeding as a marker for early colorectal cancer has been estimated to be 10%.<sup>14</sup> This means that approximately 90% of the investigations undertaken will be unnecessary. Until the benefits of early detection of symptomatic colorectal cancer are established, to subject such large numbers of people to unneces-

sary anxiety, discomfort, and risk is not only impractical, but also unethical.

What, then, should practitioners do about the cases which will come to their attention? The considerations in the case of the individual patient are quite different from those for the community at large. The patient presenting to a medical practitioner with rectal bleeding has a 10% chance of having a colorectal carcinoma or adenoma.<sup>14</sup> Given this possibility, the practitioner has a responsibility to evaluate the cause of bleeding thoroughly. While each case must be judged on its merits, this will often require full colonic investigation. A diagnosis based on clinical assessment only is likely to be highly inaccurate. A prospective study of 145 patients with rectal bleeding showed that general practitioners' clinical assessment of the likelihood of a colorectal malignancy as the source of bleeding had a positive predictive value of 20%. More importantly, had their response been based solely on this judgement, they would have missed a colorectal malignancy in 25% of cases.<sup>14</sup>

#### CONCLUSIONS

In this study, 20% of individuals aged 40 years and over reported having experienced rectal bleeding at some time in their lives. This is probably an underestimate of actual rates. Thirty percent of people reporting a first occurrence of the symptoms within the past five years could be considered to have delayed or failed to seek medical advice about their symptom. These data suggest that prompt investigation of rectal bleeding is not occurring in a relatively large proportion of cases; intervention would appear to be necessary. However, in the absence of firm evidence

that early detection improves prognosis, and considering the costs of screening, it would be premature to initiate programmes which encourage prompt care seeking for this symptom. Further investigation of links between early detection of symptoms and improved prognosis are called for.

- 1 NSW Cancer Council Annual Report. Sydney: NSW Cancer Council, 1988.
- 2 Fisher M, Eckhart C, eds. *Guide to clinical preventive services: an assessment of the effectiveness of 169 interventions*. Report of the US Preventive Services Task Force. Baltimore: Williams and Wilkins, 1989.
- 3 Canadian Task Force on Periodic Health Examinations. The periodic health examination. *Can Med Assoc J* 1979; 121: 1193-254.
- 4 Silman AJ, Mitchell P, Nicholls RJ, et al. Self-reported dark red bleeding as a marker comparable with occult blood testing in screening for large bowel neoplasms. *Br J Surg* 1983; 70: 721-4.
- 5 Farrands PA, Hardcastle JP. Colorectal screening by a self-completion questionnaire. *Gut* 1984; 25: 445-7.
- 6 Goulston K, Chapuis P, Dent O, Bokey L. Significance of bowel symptoms. *Med J Aust* 1987; 146: 631-3.
- 7 Dent OF, Goulston KJ, Zubrzycki J, Chapuis PH. Bowel symptoms in an apparently well population. *Dis Colon Rectum* 1986; 29: 243-7.
- 8 Farrands PA, Hardcastle JD, Chamberlain J, Moss S. Factors affecting compliance with screening for colorectal cancer. *Community Med*. 1984; 6: 12-19.
- 9 Chapuis PH, Goulston KJ, Dent OF, Tait AD. Predictive value of rectal bleeding in screening for rectal and sigmoid polyps. *BMJ* 1985; 290: 1546-8.
- 10 Holliday HW, Hardcastle JD. Delay in diagnosis and treatment of symptomatic colorectal cancer. *Lancet* 1979; i: 309-11.
- 11 Hacket TP, Cassem NH, Raker JW. Patient delay in cancer. *N Engl J Med* 1973; 289: 14-20.
- 12 Berkanovic E. Seeking care for cancer relevant symptoms. *J Chron Dis* 1982; 35: 727-34.
- 13 Australian Bureau of Statistics. 1981/1986 Population census Melbourne: Space-Time Research Pty. 1989.
- 14 Goulston KJ, Cook I, Dent OF. How important is rectal bleeding in the diagnosis of bowel cancer and polyps? *Lancet* 1986; ii: 261-5.
- 15 Dent OF, Chapuis PH, Goulston KJ. Relationship of survival to stage of tumour and duration of symptoms in colorectal cancer. *Med J Aust* 1983; 1: 274-5.