Rectal examination in general practice

T W Hennigan, P J Franks, D B Hocken, T G Allen-Mersh

Abstract

Objective—To investigate factors influencing a general practitioner's decision to do a rectal examination in patients with anorectal or urinary symptoms.

Design—Postal questionnaire survey.

Setting—General practices in inner London and Devon.

Subjects—859 General practitioners, 609 (71%) of whom returned the questionnaire.

Main outcome measures—Number of rectal examinations done each month; the indication score, derived from answers to a question asking whether the respondent would do a rectal examination for various symptoms; and the confidence score, which indicated the respondent's confidence in the diagnosis made on rectal examination.

Results—279 General practitioners did five or fewer rectal examinations each month and 96 did more than 10 each month. Factors significantly associated with doing fewer rectal examinations were a small partnership and being a female general practitioner, and the expectation that the examination would be repeated. Lack of time in the surgery, and a waiting time of less than two weeks for an urgent outpatient appointment were also important. General practitioners were deterred from doing rectal examinations by reluctance of the patient (278), the expectation that the examination would be repeated (141), and lack of time (123) or a chaperone (39). Confidence in diagnosis was significantly associated with doing more rectal examinations, the perception of having been well taught to do a rectal examination at medical school, and being a male general practitioner.

Conclusions—Factors other than clinical judgment influence the frequency of rectal examination in general practice. Rectal examination may become commoner with the trend towards larger group practices and if diagnostic confidence is increased and greater emphasis put on rectal examination in undergraduate and postgraduate teaching.

Introduction

Anorectal and urinary symptoms account for up to a tenth of consultations in general practice¹ and may indicate serious disease, yet only half of patients with anorectal symptoms have a rectal examination by their general practitioner before being referred to a specialist.² A delay in diagnosis related to the doctor occurs in a quarter to half of colorectal cancers.³⁻⁶ Between 25% and 35% of colorectal cancers are palpable,⁷⁻¹⁰ and rectal examination in all patients with anorectal symptoms may reduce diagnostic delay. Similarly, 35% of patients with prostatic cancer do not have a rectal examination before being referred to a urologist.¹¹

The aim of our study was to investigate factors influencing a general practitioner's decision to do a rectal examination.

Patients and methods

We sent a questionnaire to all 859 general practitioners on the lists of Ealing, Hammersmith, and Hounslow; Kensington and Chelsea; and Devon Family Practitioner Committees. A reminder and further questionnaire were sent to non-responders. General practitioners were questioned on their age, sex, and years since qualification and on the number of partners in the practice. They were asked: "Are you deterred from doing a rectal examination by: the expectation that the examination will be repeated in the outpatient clinic, lack of time or chaperone, patient reluctance, or other (please state); and is the waiting time for an urgent outpatient appointment greater or less than two weeks?"

Three end points were used to assess patterns of rectal examination in general practice. (1) General practitioners were asked "How many rectal examinations do you perform each month?" Possible answers were none, one to five, six to 10, and more than 10. (2) An indication score was determined by asking "Would you perform a rectal examination in an adult presenting with: rectal bleeding, rectal pain, vague abdominal pain, diarrhoea, diarrhoea in the elderly, backache, or urinary symptoms in males and females?" Possible answers for each symptom were always, usually, sometimes, and never. A score of one was given for each symptom if the general practitioner was more likely than the overall study population to do a rectal examination for that symptom, as indicated by the median response of the study population. The eight scores were summed to give an indication score ranging from zero to eight. (3) A confidence score was determined by asking "Do you feel confident about the following diagnoses at rectal examination: rectal cancer, prostate cancer, benign prostatic hyperplasia, fistula in ano, anal fissure, and no appreciable abnormality?" A score was derived by scoring one for each positive reply and adding the scores for the six diagnoses to give a confidence score within the range zero to six.

For each end point the median score was used to divide the study population into two groups. All end points were categorised. To produce contingency tables with sufficient numbers in each cell data from adjoining cells were summed when appropriate. Kendall's τ C test was used to assess trends in contingency tables.¹² Logistic regression was used to identify independent predictors of end points.¹³

Results

Of the 859 general practitioners sent a questionnaire, 609 (71%) replied. Table I gives details of the practices' size and location and the sex and experience of the general practitioners.

Detering factors—The reasons given for deciding not to do a rectal examination in symptomatic patients were reluctance of the patient (278 respondents), the expectation that the examination would be repeated (141), and lack of time (132) or a chaperone (39).

Department of
Surgery, Charing Cross and
Westminster Medical
School, London W6 8RF
T W Hennigan, FRCS, lecturer
P J Franks, PHD, research
fellow
D B Hocken, FRCS, lecturer
T G Allen-Mersh, FRCS,
senior lecturer

Correspondence to:
Mr Hennigan.

Br Med J 1990;301:478-80

General practitioners who thought that they had been poorly taught, were more recently qualified, or worked in inner London were significantly ($p<0.01$) more likely to be deterred by one or more of these factors.

Number of rectal examinations performed—Overall, 279 general practitioners did five or fewer rectal examinations a month, 211 did six to 10, and 96 did more than 10. Fewer rectal examinations (table II) were performed by general practitioners working in small partnerships, in inner London, and in areas where the waiting time for an urgent outpatient appointment was less than two weeks. Independent predictors of doing fewer rectal examinations were the expectation that the examination would be repeated ($p<0.0001$), working single handedly or with one or two partners ($p=0.002$), and being a female general practitioner ($p=0.009$).

Indication score—General practitioners in areas where the wait for an urgent outpatient appointment was less than two weeks, who thought that they had been poorly taught how to do a rectal examination at the medical school, who worked in inner London, and who were more recently qualified were less likely to do a rectal examination for a particular symptom (table II). Independent variables predicting a low indication score were lack of time ($p=0.0001$), the expectation that the examination would be repeated at the outpatient clinic ($p<0.0001$), a waiting time of less than two weeks for an urgent appointment ($p<0.0001$), and reluctance of the patient ($p=0.005$).

Confidence score—The numbers of general practitioners who were confident of making various diagnoses on rectal examination were 573 for anal fissure, 550 for rectal carcinoma, 510 for benign prostatic hyperplasia, 373 for prostatic cancer, and 377 for fistula in ano, and 480 could confidently say that no appreciable abnormality was present on rectal examination. Diagnostic confidence was associated (table II) with doing more rectal examinations and being appreciably less deterred by reluctance of the patient, the expectation that the examination would be repeated in the clinic, and lack of time. The confidence score was significantly greater among general practitioners in provincial or rural practice ($p<0.0001$), those who believed that they had been well taught how to do a rectal examination ($p=0.001$), and the male general practitioners ($p=0.005$). Independent variables predicting a high confidence score were doing more rectal examinations ($p=0.005$), the perception of having been well taught how to do a rectal examination ($p=0.001$), and being a male general practitioner ($p=0.006$).

Discussion

Fewer rectal examinations were done by general practitioners in small partnerships and in inner London. Singlehanded general practitioners and those with one or two partners are more familiar with the patients on their list and may consider themselves better able to identify patients requiring a rectal examination. In addition, smaller practices may have fewer examination facilities. Because of the appreciably quicker access to hospital outpatient appointments general practitioners in inner London may attach a lower priority to rectal examination than those in a provincial practice. Female general practitioners did fewer rectal examinations than men, perhaps because they are more embarrassed, especially with male patients.

Reluctance of the patient and knowing that the examination would be repeated were the most important deterrents from rectal examination. Both are related to the importance that the general practitioner attaches to a rectal examination and how this is communicated to the patient. Confident general practitioners were less likely to be deterred. Diagnostic confidence was greater among general practitioners who worked in rural or provincial practice, were male, or believed that they had been well taught how to do a rectal examination at medical school.

An increase in the frequency of rectal examination by a general practitioner depends on the trend towards larger and better equipped group practices. Also, undergraduate teaching and postgraduate vocational training must increase doctors' awareness that rectal examination is important for patients presenting with anorectal or urinary symptoms irrespective of whether they are to be referred to hospital or not. Rectal examination should be learnt by undergraduates under the supervision of a consultant. Subsequently, general practitioners can increase their diagnostic skills by attending rectal clinics during vocational training and by watching training films showing anorectal conditions that can be diagnosed at rectal examination.

Factors other than clinical judgment influence the decision to do a rectal examination, and there is scope for improving this by addressing the attitudes of doctors, the influence of the size of practices, and teaching of the examination.

We are indebted to Dr Michael Hall for advice and guidance on contacting general practitioners within Devon Family Practitioner Committee, the general practitioners in Devon and London who completed the questionnaire, and Alison Gaines for preparing the manuscript.

TABLE I—Sex, years since qualifying, and size and situation of practice of 609 general practitioners who replied to questionnaire

	No
Sex:	
Male	493
Female	74
Years since qualifying:	
≤10	112
11-20	220
>20	270
Size of practice:	
Singlehanded	69
2, 3 Partners	231
>3 Partners	309
Situation of practice:	
Inner London	164
Provincial or rural	445

Not all questions were answered by all general practitioners.

TABLE II—Factors influencing performance of rectal examination by 609 general practitioners

	No of rectal examinations performed				Examinations performed for a particular symptom				Confidence in diagnosis made by examination			
	No/month		Kendall's τ C	p Value	Indication score		Kendall's τ C	p Value	Confidence score		Kendall's τ C	p Value
	0-5	≥6			0-4	5-8			0-4	5-6		
Sex:												
Male	211	268	-0.070	0.006	278	207	-0.026	0.179	170	322	-0.070	0.005
Female	40	26			46	27			37	37		
Years since qualifying:												
≤10	60	50	0.055	0.107	73	38	0.076	0.040	52	59	0.050	0.117
11-20	97	114			131	84			73	147		
>20	118	140			150	117			98	171		
Size of practice:												
Singlehanded	42	23	0.181	0.0001	41	28	0.027	0.257	26	42	0.011	0.396
2, 3 Partners	117	105			141	87			86	145		
>3 Partners	115	177			172	124			110	191		
Situation of practices:												
Inner London	98	55	0.172	0.0001	121	40	0.163	0.0001	76	86	0.100	0.002
Provincial or rural	181	252			239	200			152	293		
Waiting time for urgent outpatient appointment:												
<2 Weeks	217	210	0.095	0.004	271	165	0.083	0.008	167	273	0.033	0.168
>2 Weeks	48	80			65	64			44	88		
Well taught at medical school:												
Yes	173	186	0.016	0.351	218	160	-0.077	0.022	124	252	-0.106	0.003
No	93	107			135	69			91	113		

Not all questions were answered by all general practitioners.

- 1 Royal College of General Practitioners, Office of Population Censuses and Surveys, and Department of Health and Social Security. *Morbidity statistics from general practice, 1981-1982. Third national survey.* London: HMSO, 1986. (Series MB5 No 1.)
- 2 Springall RG, Todd IP. General practitioner referral of patients with lower gastrointestinal symptoms. *J R Soc Med* 1988;81:87-8.
- 3 Graffner H, Olssen S-A. Patient's and doctor's delay in carcinoma of the colon and rectum. *J Surg Oncol* 1986;31:188-90.
- 4 Holliday H, Hardcastle J. Delay in diagnosis and treatment of colorectal cancer. *Lancet* 1979;i:309-11.
- 5 Ratcliffe R, Kiff RS, Kingston RD, Walsh S, Jeacock J. Early diagnosis in rectal cancer. Still no benefit? *J R Coll Surg Edinb* 1989;34:152-5.
- 6 Paterson IS, Hancock DB. *The simplest test for rectal carcinoma.* London: Royal Society of Medicine, 1987.
- 7 Goligher J. Clinical features and diagnosis of carcinoma of the colon and rectum. In: Goligher J, ed. *Diseases of the colon, rectum, and anus.* London: Baillière Tindall, 1984:465-84.
- 8 Storer EH, Goldberg SM, Nivatvongs S. Colon, rectum and anus. In: Schwartz SI, ed. *Principles of surgery.* 3rd ed. New York: McGraw-Hill, 1979:1216.
- 9 Turunen MJ, Peltokallo P. Surgical results in 657 patients with colorectal carcinoma. *Dis Colon Rectum* 1983;26:606-12.
- 10 Umpleby HC, Bristol JB, Rainey JB, Williamson RCN. Survival of 727 patients with single carcinomas of the large bowel. *Dis Colon Rectum* 1984;27:803-10.
- 11 De Klerk DP. Rectal examination in the detection of prostate cancer. *South African Medical Journal* 1988;73:157-8.
- 12 SPSS Inc. *SPSS users guide.* 2nd ed. New York: McGraw-Hill, 1986.
- 13 Dixon WJ, ed. *BMDP statistical significance.* Berkeley: University of California Press, 1987.

(Accepted 8 June 1990)

MEDICINE AND THE MEDIA

British Heart Foundation
Advanced Resuscitation

Leicestershire Health Authority Health
Education Video Unit *Coronary Heart Disease*

Back to basics

For the recently qualified doctor there are few more daunting experiences than the first attendance at a cardiac arrest. The combination of frenetic activity and bewilderingly complex therapeutics and resuscitative machinery set in an atmosphere of great urgency bewilders and intimidates all but the most resilient. In recent years concern has been expressed over the resuscitation skills of junior doctors (there is little information on seniors) and, as a result, formal training is advised at both undergraduate and postgraduate levels. But nothing can ever replace the confidence that comes from experience.

The British Heart Foundation has produced a videotape recording by Dr Douglas Chamberlain and his colleagues in Brighton that illustrates the techniques of advanced cardiovascular resuscitation in an interesting and realistic style. It begins with a disturbing but all too lifelike reconstruction of how not to do it. The disorganised scrum of willing but uninformed helpers with no clear leader, all shouting conflicting orders, provokes some uncomfortable reminders of just how wrong things can go—right down to the incompatible plug and socket.

In sharp contrast a disciplined approach is then shown, with a clearly defined team leader working through a logical protocol of resuscitation activity. The priorities are clearly defined. The importance of immediate defibrillation is emphasised, and advice concerning drug treatment is clear and simple—in practice this is frequently pursued in an irrational and potentially hazardous fashion. There is also a timely reminder of the current attitude towards bicarbonate treatment and its potential hazards. Useful tips for all of us include avoiding the potentially dangerous pause in resuscitation effort while the monitor screen is scanned for the results of a recently delivered direct current shock.

The video is presented in a sympathetic and down to earth fashion and will make an excellent introduction to a practical hands on demonstration. After that I would suggest that the class should walk round the hospital and see where the plugs really fit.

The second offering is intended for a different audience. The Leicester Health Authority Educational Unit has produced a three part video tape recording that provides a comprehensive description of coronary artery disease for the lay public. The first two sections deal with biology and pathology of coronary disease and its prevention, the third is concerned with investigation and management. The details of a complex subject are handled well with imaginative illustration and clear explanation. The first two parts are largely self explanatory, but the third, dealing with the complexities of a whole range of investigations and treatment options, would require an appropriately qualified commentator present to answer the questions that the tape would undoubtedly provoke. It is an extremely useful introduction to this important health problem and will find a role in schools, adult education centres, and in the training of first aiders. —
BRIAN PENTECOST, *consultant physician, Birmingham General Hospital, Birmingham B4 6NH*

British Hypertension Society
Blood Pressure Measurement

London: *British Medical Journal*
ISBN 0 7279 0292 X.

Blood pressure— getting it right

The measurement of blood pressure is arguably the most important clinical test undertaken by nurses or doctors. Though it is ostensibly a simple procedure, the techniques are often badly taught and inadequately standardised. Slovenly and inaccurate readings lead to incorrect clinical decisions and the false classification of some normotensive people as hypertensive. Not before time, the British Hypertension Society has published some simple guidelines both in booklet form and in the pages of the *BMJ*.

Now, in collaboration with the *BMJ*, the society has produced a training video on measuring blood pressure, which should be in the video libraries of all medical colleges and schools of nursing.

The first part of the video covers the correct technique for measuring blood pressure. It places great emphasis on the importance of using the correct cuff. When normal cuffs are used on fat or very muscular arms with a circumference of more than 33 cm blood pressure is seriously overestimated and patients may needlessly be started on antihypertensive treatment. A larger cuff is necessary, but I wonder how many general practitioners, nurses, or hospital doctors have ready access to the large adult cuff. To overcome this problem, the society recommends a new normal cuff with an internal rubber bladder that measures 12.5×33 cm. This cuff will be suitable for all but the few patients with arm circumferences exceeding 41 cm. The society's recommendations will cost money in the short term, but if they lead to a reduction in drug treatment of non-hypertensives there will be considerable financial benefit.

After covering the correct techniques for measuring blood pressure, the video shows 20 falling columns of mercury with the Korotkoff sounds. Viewers are thus able to compare their readings with those of other members of the class and also with those of a group of experienced observers on the video itself. The audience may find this section surprising because even with the greatest of care their results may differ from the results given on the video, and even these results show some interobserver variation. The point is that there is no correct answer, only the opinion of the measurers.

This video, though scientifically excellent, is a little uninspiring. The dull Aberdonian voice over, with its complete lack of animation, induces a gradually increasing sense of boredom. Hypertension is an exciting and fascinating topic, but this video will not add to the numbers of enthusiasts. A drug company would have employed a professional commentator, which might have made it a little more attractive. But that is a minor point. More importantly, every school of nursing, every medical school and many large group practices should buy this video urgently. —D G BEEVERS, *consultant physician, Dudley Road Hospital, Birmingham B18 7QH*