Medicine in the Elderly

Colonoscopy in patients aged 80 years or older and its contribution to the evaluation of rectal bleeding

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Summary: Colonoscopies performed in patients aged 80 years or older at the Sheba Medical Center were analysed according to the primary indication for the procedure: 101 colonoscopies were performed because of rectal bleeding of at least 2 months duration, and 335 for all other indications. Carcinoma of the large bowel was found in 29 (28.7%) bleeders, with the rectum being the most frequently involved site (12 patients). Among the non-bleeders, the prevalence of cancer was significantly lower (33 cases, 9.8%; $P < 0.001$), and rectal carcinoma was less common (five patients, $P = 0.04$), but proximal tumours were more frequent. Of patients with cancer who had operations, the majority (72%) had a tumour confined to the bowel wall (Dukes A or B). The rate of adenomas was similar for both groups (34% vs 29%). The non-bleeders complained more frequently of abdominal pain or a change in bowel habits as compared to the bleeders, but both groups had similar rates for anaemia and weight loss.

In all, 47% of these octogenarians with cancer, and 26% with adenomas were referred for colonoscopy because of rectal bleeding. This procedure was found to be safe in old age, as we recorded only four (0.9%) non-fatal complications among our series, a similar figure to the overall incidence of complications at our Institute. In conclusion, our data indicate that rectal bleeding in octogenarians warrants a complete colonic investigation, preferably by total colonoscopy.

Introduction

Rectal bleeding is an important and common manifestation of colorectal neoplasia.^{1–3} The presence of a tumour in patients with rectal bleeding cannot be predicted by clinical data,^{4,5} and therefore should be established by a radiological or colonoscopic investigation.⁶ Despite some debate concerning the preferred method of large bowel investigation,^{1,6–12} most studies favour colonoscopy over barium enema because it may be used also for biopsy and treatment of the neoplastic lesions.

It has been suggested that complications of colonoscopy are age-related and that the risk versus benefit of colonoscopy in the very old favour the use of alternative investigative modalities.^{13,14} This traditional approach has been recently challenged.¹⁵ The aim of our study was to evaluate the

role of colonoscopy in octogenarians in general, and in those referred for investigation of recurrent rectal bleeding in particular.

Patients and methods

The majority of the inhabitants in the catchment area of the Sheba Medical Center are medically insured by the General Workers Sick Fund, which operates primary care clinics. We urged primary physicians to refer every patient with recurrent rectal bleeding for examination at our Institute, regardless of the results of any work-up which might have already been performed. Recurrent rectal bleeding was defined as multiple episodes of small amounts of bright or dark red blood per rectum, related to bowel movement.

The study population (bleeders) consisted of patients aged 80 years or more with rectal bleeding of more than 2 months duration. Those with massive bleeding, melaena or simply positive tests for occult blood were excluded from the study.

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Based on our previous experience with prolonged rectal bleeding¹⁶ all patients underwent colonoscopy. The results were compared to those obtained in octogenarians referred by primary care physicians for colonoscopy because of all other indications (non-bleeders). Preparation for colonoscopy usually consisted of one day of clear liquid diet, X-Prep[™] (Sennosides A and B, 75 ml taken by mouth, Rafa Industries), and tap water enemas prior to the examination. Diazepam (3–10 mg, intravenously) was used for premedication. During the procedure the patients were monitored for heart rate, blood pressure, respiration rate and electrocardiogram, and oxygen was supplemented when needed. Patients' files were searched for demographic data, details of colonoscopy (extent, reasons for inability to reach the caecum when total colonoscopy was planned, final diagnoses and complications), and post-operative grading of cancers according to the Dukes classification. Haemorrhoids or other benign anal lesions, which could be a potential source of rectal bleeding, were noted but not considered within the scope of this study, which was aimed primarily at examining the association of prolonged rectal bleeding with colorectal neoplasia.

Results

Both groups included 436 patients aged 80–101 years. The demographic and clinical data are given in Table I. The groups were similar, but there were significantly more patients in the non-bleeding group complaining of abdominal pain or of a change in bowel habits. Only 38% of all octogenarians had had barium enema prior to colonoscopy. A tentative diagnosis of neoplasia was suggested by barium enema in 31% of colon radiographic studies in bleeders and in 20% of the non-bleeders. Success rates of the initial intended total colonoscopies in both groups and the reasons for inability to complete colonoscopy are shown in Table II. In such cases a second colonoscopy was performed, with an overall success rate of 87–89%. Internal haemorrhoids (Stage II–IV) were noted in 60% of the bleeders versus 29% of non-bleeders ($P < 0.001$).

The incidence of cancer was significantly higher among the bleeders compared to the non-bleeders (29% vs 9.8%; $P < 0.001$) (Table II). However, the incidence of adenomas was similar (28.7% vs 34%; $P = 0.4$). The left colon was the most commonly involved site of cancer in the non-bleeders, but the incidence of rectal carcinomas among the bleeders was significantly higher than in the non-bleeders ($P = 0.04$). Proximal carcinomas (transverse and right colon) were more frequent in the non-bleeders. Surgery, which was performed on 45

Table I Demographic and clinical data

	Bleeders		Non-bleeders		P
	n	%	n	%	value
No. of patients	101		335		
Sex					
Male	53	52.5	192	57.3	N.S.
Female	48	47.5	143	42.6	N.S.
Age					
80–84	79	78.1	255	76.1	N.S.
85–89	15	14.9	62	18.5	N.S.
90–94	5	5.0	13	3.9	N.S.
> 95	2	2.0	5	1.5	N.S.
Indications*					
Rectal bleed	101	100.0	0	0	–
Abdominal pain	4	4.0	46	13.7	0.01
Anaemia	10	9.9	37	11.0	N.S.
Weight loss	4	4.0	23	6.8	N.S.
Abdominal mass	1	1.0	15	4.4	N.S.
Change in bowel habits	12	11.9	112	30.3	<0.001
Others	0	0.0	9	2.7	N.S.
No symptoms†	0	0.0	112	33.4	–

*Cases could have more than one indication for colonoscopy; †Referred for follow-up, evaluation for pathology found in barium enema, etc.

Table II Colonoscopy success rates and results

	Bleeders		Non-bleeders	
	n	%	n	%
Colonoscopy completed to caecum				
Overall success rate	64/72	89	200/230	87
At first attempt	48/72	66	143/230	63
Failure at first attempt due to				
Poor preparation	14	19	44	19
Technical difficulties*	6	8	36	16
Pain	2	3	5	2
Inadequate patient cooperation	2	3	2	1
Final diagnosis				
Carcinoma	29	29	33	10‡
Adenoma†	34	34	96	29
Cancer location				
Rectum	12	41	5	15§
Left colon	11	38	15	46
Transverse	4	14	9	27
Right colon	2	7	4	12
Tumour stage				
Dukes A	4	18	2	9
Dukes B	10	46	14	61
Dukes C	7	32	5	22
Unknown	1	5	2	9

*Looping or fixed sigmoid, acute angulation, etc.; †Including cases with both adenoma and carcinoma; ‡P (bleeders vs non-bleeders) < 0.001; §P = 0.04.

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(73%) cancer patients, detected early cancers (Dukes A or B) in 72% (Table II). In all, 29 of 62 (47%) octogenarians (both groups) found to have cancer, and 34 of 130 (26.2%) with adenomas, were referred for colonoscopy because of rectal bleeding. The rate of other endoscopic diagnoses was similar for both groups, but the non-bleeders had more normal colonoscopies than the bleeders (22% vs 34%; $P = 0.05$).

Complications were recorded in four (0.9%) of all examinations: one vasovagal reaction following the resection of a large malignant polyp and two episodes of post-biopsy bleeding which stopped spontaneously; one perforation in the sigmoid colon was managed successfully by colostomy.

Discussion

Rectal bleeding which occurs at some time in about 15% of the general population,⁴ does not necessarily reflect a serious underlying pathology. The significance of rectal bleeding in the very old has not been adequately addressed in the literature. In our study we showed that rectal bleeding in patients 80 years old or more was associated with a normal colonoscopy in 22% only. Octogenarians with rectal bleeding of more than 2 months duration had a three-fold chance of having colorectal cancer when compared to non-bleeders. Rectal bleeding appeared in about a half of all patients with cancer and in approximately a quarter of those with adenomas. The incidence of haemorrhoids in bleeders was significantly higher than in non-bleeders. This is expected of course, but in view of the increased incidence of cancer in bleeders, one must recall that 41% of cancers in bleeders were located in the rectum as compared to 15% of non-bleeders, and that anorectal cancer is known to be associated with a higher prevalence of haemorrhoids.^{5,17,18} On the other hand, non-bleeders tended to have cancers located more proximally. This supports previous studies suggesting that right-sided cancers are less frequently manifested by rectal bleeding.⁹ In retrospect, even though 70% of all cancers were located within the reach of a 60 cm flexible sigmoidoscope, in our opinion, for the sake of the remaining 30% of cancers located proximally, old people with prolonged rectal bleeding should have a complete colonic investigation. Furthermore, a substantial number of the diagnosed tumours in our series were operable and confined to the bowel wall (Dukes A

or B). This accords with the assumption that rectal bleeding is a symptom of early, rather than advanced colorectal tumour,³ again emphasizing the importance of early colonoscopic detection and prompt removal of the neoplasia.

One should note that a third of the intended total colonoscopies were not completed to the caecum at first attempt, whereas the overall success rate in our Institute is 88% (Y. Geva, M.D. thesis, Hadassa Medical School, Jerusalem, 1990). Thus, at first glance it appears that colonoscopy is a difficult procedure to be performed successfully in the aged. However, a more detailed analysis of our data shows that most failures were due to poor preparation. Preparation has been recently improved since we substituted sennosoides/enema preparation (X-Prep) with polyethylene glycol balanced electrolyte solution (Golyetly).

Between 1973 and 1978, Shinya *et al.*¹ performed 2,200 colonoscopies in patients with rectal bleeding. The oldest patient in their series was only 75 (!) years old. During the past several years there have been major technical improvements in instruments used for colonoscopy, and therefore age *per se* is no longer considered a limiting factor.¹⁵ In fact, we have performed several colonoscopies in centenarians. In our overall experience of some 9,000 colonoscopies (unpublished data), we encountered 1.1% minor complications (mostly vasovagal reactions) and 0.05% major complications. These figures are similar to those observed in the present study. Hence octogenarians do not seem to have a greater complication rate of colonoscopy, especially if monitored properly while sedated.¹⁹

In conclusion, we believe that colonoscopy should be offered to all patients, whenever indicated, and regardless of their age. This procedure is of utmost importance especially in all cases presenting with prolonged rectal bleeding, in view of the high incidence of associated malignancies, mostly still confined to the bowel wall. Similar opinion was expressed recently by Forde^{12a} while discussing the approach toward middle-aged persons with episodic rectal bleeding and internal haemorrhoids. The low incidence of complications observed in our study gives a further approval for the use of colonoscopy even in very old patients.

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