

Rigid Sigmoidoscopy: Patient Tolerability

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Citation

O Aboumarzouk, S Dharamavaram, S Santhapuri, A Asghari, J Muen. *Rigid Sigmoidoscopy: Patient Tolerability*. The Internet Journal of Surgery. 2009 Volume 25 Number 1.

Abstract

Aim: To evaluate the patients' tolerability of rigid sigmoidoscopies and to assess the analgesic requirement, as well as to compare male and female tolerability. **Method:** A data sheet was used and completed for this prospective study of all the patients who underwent a rigid sigmoidoscopy (RS) over 3 months in the outpatient clinics. **Results:** 108 patients were included in the study. A change in bowel habits was the major indication for patients to undergo a RS, with 48.2% of the indications, followed by rectal bleeding (39.8%), abdominal pain (11.1%), and iron deficiency anaemia (0.9%). There were no abnormalities found in 78.7% of the patients and 84.3% required a further investigation. 47.22% of the patients did not feel any pain or discomfort, while 34.26% felt discomfort, 16.67% felt some bearable pain, and only 1.85% felt unbearable pain. None of the patients required analgesia. **Conclusion:** RS is a safe, well tolerated, cheap tool that is used as the first line investigation for colorectal diseases.

INTRODUCTION

In a colorectal clinic, Rigid Sigmoidoscopies (RS) are the routine first-line investigations for the majority of colorectal symptoms.^{1,2} They can also aid the diagnosis and management of rectal bleeding soon after an episode, whether it was bleeding from the lower rectum or anal canal.³ RS are effective, inexpensive, quick and widely used, but in recent years they have been replaced by Flexible Sigmoidoscopies (FS).⁴ FS are not readily available in all outpatient clinics hence the continuous use of disposable RS, which makes them more convenient and quick to use.

Though the procedure is safe and rarely needs any bowel preparations, it can be quite embarrassing and/or uncomfortable and sometimes painful to the patient.¹⁻⁴ The positioning of the patient or the rectal insufflation with air might cause a degree of discomfort, but the pain might be due to anticipation of pain rather than an actual painful stimulus. To this end, we aimed to study whether RS actually causes pain or the patient is more uncomfortable by the procedure. In addition we aimed to compare between the sexes to evaluate whether males or females are more tolerant of the procedure.

METHOD

A prospective evaluation study was performed from July 2008 till September 2008 at a district general hospital in one consultant's colorectal clinic. Patients were referred to the

clinic for various general surgical and colorectal symptoms.

All patients who were to have a rigid sigmoidoscopy procedure were verbally consented for their participation and the procedure was explained to each patient in detail.

Patients who had anal fissures on per rectal examination did not proceed to have a RS and were therefore excluded from the study. Patients who presented with anal pain were excluded as the RS might be an addition to the pain rather than the cause. Patients who had banding of their haemorrhoids were excluded, as the banding might be the source of pain rather than the sigmoidoscope. A disposable rigid sigmoidoscope of 1.9cm in diameter and 25cm in length was used on all patients. All patients were examined in the left lateral position (Sims' position). No patient was given bowel preparation beforehand.

A data sheet was used to gather patient information after the procedure was completed. The following variables were recorded: indication for the procedure, description of the procedure, whether or not it was abandoned, findings, if a further procedure was to be done, analgesic requirement, and pain scores.

There were two types of pain scores that were used, the first was a verbal pain scale assessment, through which the patients were asked to describe their experience of the procedure verbally, whether there was no pain and no discomfort, or they felt embarrassed and discomfort, mild to moderate pain (but bearable), or agonizing unbearable pain.

All patients who described any pain or discomfort were asked to fill in the second pain score assessment, which was the traditional numerical pain scale allowing the patient to rank their pain from 0 to 10. Patients who did not experience any pain or discomfort did not fill in the second assessment. The numerical score was then grouped into two groups for practical purposes, those who ranked five or less and those who ranked six or more. Then the scores were compared between the sexes.

RESULTS

During the three months there were 124 patients who came to the colorectal clinic and underwent a rigid sigmoidoscopy. There were 108 patients who were included in the study with 16 who met the exclusion criteria. There were 50 males and 58 females with an age ranging between 26-86 and 22-92 years, respectively.

A change in bowel habits represented the majority of the indications for the procedure with 48.2% (52 patients) of the total population, 39.8% (43 patients) was for rectal bleeding, followed by abdominal pain with 11.1% (12 patients) and only 0.9% (1 patient) of the indications was due to unexplained iron deficiency anaemia.

The procedure did not reveal any abnormalities in 78.7% of the patients, which is the overall majority. Haemorrhoids were the commonest, with 11.1%, but no intervention was done for these patients therefore included in the study. Anal skin tags represented 4% of the findings, with faecal impaction in 2.8%, rectal polyps in 1.9%, and anal polyps in 1.7%. The procedure was abandoned in only 1 male patient (0.9%), which was due to the patient complaining of too much pain.

Out of the total population, 84.3% of the patients required a further procedure in the form of either a colonoscopy, flexible sigmoidoscopy, a barium enema, CT scan, or a day case procedure (Table 1).

The procedure was uncomplicated and straight forward in 99.1% of the patients, with only 1 patient (0.9%) who had a short delay in the procedure due to faulty light on the sigmoidoscope.

All the patients were asked to complete the verbal pain scale assessment (Table 2). The results revealed that 50% of males and 44.8% of females did not complain of any pain or discomfort. There were more males than females that complained of discomfort and embarrassment. However,

there were more females than males who complained of mild to moderate pain. There were equal numbers of males and females who had agonizing pain, of whom the 1 male represented the only patient in the study in whom the procedure needed to be abandoned.

Patients who described or felt any discomfort or pain were asked to complete the numerical pain score assessment (50% of the males and 55.2% of the females, Table 3). The majority of both males and females ranked their scores at 5 or less, while 16% of males ranked their pain to be 6 or above and only 12.5% of the females ranked 6 or above.

None of the patients required any form of analgesia either during or after the procedure, even though 16.67% and 1.85% of the total population had mild to moderate pain and unbearable agonizing pain, respectively.

Figure 1

Table 1. Further procedures required.

Further Procedures to be done	Total	Percentage
None	17	15.7
Colonoscopy	64	59.3
Flexible Sigmoidoscopy	11	10.2
Barium Enema	10	9.3
Skin Tag Excision	2	1.9
Polypectomy	1	0.9
EUA and Rigid Sigmoidoscopy	1	0.9
CT Scan	1	0.9
OGD	1	0.9

Figure 2

Table 2. Verbal pain scale results:

Verbal Pain Scale	Males		Females		Overall	
	Total	Percentage	Total	Percentage	Total	Percentage
No Pain, No Discomfort	25	50	26	44.8	51	47.22
Uncomfortable/Embarrassing	18	36	19	32.8	37	34.26
Mild-Moderate Pain (Bearable)	6	12	12	20.7	18	16.67
Agonizing Pain (Unbearable)	1	2	1	1.7	2	1.85

Figure 3

Table 3. Numerical pain scale results:

Numerical Pain Scale	Males		Females		Overall	
	Total	Percentage	Total	Percentage	Total	Percentage
0	0	0	4	12.50	4	7.02
1	11	44	10	31.25	21	36.84
2	3	12	8	25.00	11	19.30
3	5	20	1	3.13	6	10.53
4	2	8	3	9.38	5	8.77
5	0	0	2	6.25	2	3.51
6	1	4	1	3.13	2	3.51
7	1	4	1	3.13	2	3.51
8	1	4	1	3.13	2	3.51
9	0	0	1	3.13	1	1.75
10	1	4	0	0	1	1.75

DISCUSSION

There has been a controversy over the use of flexible sigmoidoscopy rather than rigid sigmoidoscopy (RS), because flexible sigmoidoscopy examines a longer segment of bowel and has better tolerance than RS.⁴ The main reason for the continuous use of RS is that they are cheap, disposable, readily available, and quick to prepare⁴, whereas FS are time-consuming, require meticulous cleansing and sterilization, and can be difficult to operate if not enough training was provided.³ This study proved that RS procedures are not only well tolerated, but also no analgesia is required. However, with the overwhelming majority of the patients requiring a further investigation, one can speculate that RS might not be necessary. In a study by Rao et al., done on 115 patients who underwent RS and then subsequently FS, it was found that 33.9% of the patients who had normal findings with RS had pathological lesions found with FS.² One could pose the question of whether RS procedures should be performed at the primary care center before referral to a specialised center for a more thorough investigation which is more likely to pick up the pathology. Regardless of the superiority of FS to RS, RS are still widely used in colorectal clinics as part of the initial work-up.^{1,2}

It has been suggested that the bowel preparation itself is what causes the patients their symptoms⁴, but none of the patients in this study had any kind of bowel preparation. Another suggestion for the pain is the patients' position. Sims' position (left lateral position) allows a reduced manoeuvrability for the examiner hence more strain on the patient leading to increase in pain and discomfort, but is documented to be less discomforting and painful than the jack-knife position in a Ritter table.^{4,5} Expanding the bowel with air insufflations could also be a cause for the symptoms.

There is no real way one can be sure of the cause of

symptoms or to actually tabulate the degree of pain and discomfort, mainly because these experiences vary between each person and pain thresholds again vary between each person, age group, and between the sexes. This study did, however, show that men tolerated the procedure better than women, with 50% of men having no pain or discomfort and 76% of men ranking their experience 3 or less on the numerical pain scale.

RS was well tolerated and none of the patients required any analgesia either during or after the procedure, with only one patient who could not tolerate the procedure but refused analgesia, and only one patient had the procedure delayed for a short while due to technical difficulties with the scope. None of the patients had complications directly resulting from the procedure. With these results we concur that rigid sigmoidoscopy is a safe, cheap investigative tool that is also well tolerated and can be used by a trained doctor as an initial investigation for colorectal diseases.

Though, the majority of patients subsequently go on to have a further procedure, RS remains a useful initial investigation for colorectal diseases that can be done during the first patient visit to the clinic.

A thorough search of PubMed and the Internet yielded numerous studies comparing RS to FS but only one study that looked at the pain caused by the procedure and the procedure's different entities like bowel preparation, positioning of the patient, complete full length (25") penetration with the scope, and overall discomfort.⁴ In the study of Takahashi et al., the figures included 40% of patients who had no pain or discomfort during any aspect of the procedure,⁴ which gave a much lower pain figure assessment. In this study, we took the pain and discomfort assessment to the next step. Those who had any form of pain and discomfort were asked to further rank their experience and the figures were then tallied without the inclusion of those who had no pain or discomfort. This method ensured that we had a unique look at the patients' tolerance to the procedure and a detailed assessment of the pain tolerability to the RS itself, without having to assume that it could be due to either the position of the patient or the bowel preparation. Therefore our study is unique in its assessment of the patient's pain or discomfort and tolerability, also in its comparison of men and women's tolerability and pain or discomfort assessment.

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