Audit

Significance of routine digital rectal examination in adults presenting with abdominal pain

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Aim: Routine digital rectal examination (DRE) in children with abdominal pain has slowly gone out of practice but is still performed routinely in adults. This study was undertaken to assess the significance of routine DRE in adults with acute abdominal pain.

Patients and Methods: A total of 100 consecutive adults admitted to the emergency surgical unit with acute abdominal pain were studied prospectively. Following DRE, patients who were willing to participate in the study were requested to complete an anonymous questionnaire. The house officer conducted the rectal examination at admission and also completed an evaluation sheet.

Results: A working diagnosis of acute appendicitis in 38 patients and gastroduodenal, pancreatobiliary pathology in 24 patients was made. DRE did not alter clinical diagnosis or initial management in any of the 100 patients. Routine DRE did not detect any unrelated pathology. Of the patients, 93 wanted to know why rectal examination was required. Overall, 78 patients rated the DRE as uncomfortable. Although 43 were willing for DRE as a routine, 54 patients preferred to have the DRE at the time of other bowel tests rather than at the time of the emergency admission.

Conclusions: Various routine medical procedures have given way to evidence-based practice. This study has demonstrated the limited role of routine DRE in adults with no anorectal or GI symptoms during their initial evaluation for acute abdominal pain.

Key words: Rectal examination – Abdominal pain

Digital rectal examination (DRE) is useful to assess the rectum and pelvic organs. Pelvic tenderness and palpable deposits in the rectal pouch if present are important clues to the clinical diagnosis. It also serves as an opportunistic screening examination in appropriate patient groups. Statements such as 'abdominal examination is not complete without performance of a rectal examination',¹ and 'if you don't put your finger in it you risk putting your foot in it'² imply that DRE is an obligatory part of clinical examination. Routine DRE in children has largely gone out of practice; however, it is still performed in nearly all adults

admitted with acute abdominal pain. This study was undertaken to assess significance and patient tolerance of routine DRE in adults admitted as an emergency with acute abdominal pain.

Patients and Methods

A prospective observational study was carried out at the Royal Berkshire Hospital, Reading. Patients above the age of 16 years admitted to the adult emergency surgical unit with acute abdominal pain were studied. Those who

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Would you want to know why exactly this examination is required in your condition?
☐ Yes (93) ☐ No (5) ☐ Don't Know (2)

Did you get adequate explanation before this examination?
☐ Yes (97) ☐ No (2) ☐ Don't Know (1)

Would you prefer to have this examination done by a doctor of same sex?
☐ Yes (18) ☐ No (3) ☐ Don't mind (79)

Did you have enough privacy during this examination?
☐ Yes (90) ☐ No (4) ☐ Don't Know (6)

How did you feel about this rectal examination?
☐ Uncomfortable (78) ☐ Painful (19) ☐ Don't Know (3)

Would you have this examination repeated if necessary later on?
☐ Yes (89) ☐ No (2) ☐ Don't Know (9)

Would you undergo this examination as a part of routine examination even if it might not help in the immediate treatment plan?
☐ Yes (43) ☐ No (34) ☐ Don't Know (23)

If you require other bowel tests, would you then prefer to have the rectal examination at that time? (Rather than at the time of this emergency hospital admission)
☐ Yes (54) ☐ No (13) ☐ Don't Know (33)

Figure 1 Questionnaire and patients' responses in parentheses.

Table 1 Findings at clinical examination

Site of tenderness	Number of patients
Right upper quadrant	15
Left upper quadrant	2
Right and left upper quadrants	7
Right lower quadrant	33
Left lower quadrant	11
Right and left lower quadrant	23
Diffuse tenderness	9

underwent DRE under anaesthetic and patients who were too ill to complete the questionnaires were excluded although these patients had rectal examination if clinically indicated. Following DRE, patients were asked

to complete an anonymous questionnaire. The doctor admitting the patient conducted the rectal examination at the time of admission and completed an evaluation sheet to record DRE findings, patient tolerance to the procedure and also whether DRE had altered either clinical diagnosis or the initial management plan.

Results

Clinical details

In all, 100 consecutive patients (58 of whom were women) with median age of 54 years (range, 20–96 years) were included in this study. Four patients were too ill to be

Table 2 Initial working diagnosis before digital rectal examination

Clinical diagnosis at time of admission	Number of patients
Acute appendicitis	38
Acute pancreatitis	8
Peptic ulcer disease	6
Biliary pathology	10
Intestinal obstruction	17
Ischaemic bowel	2
Diverticular disease	12
Constipation	6
Obstructed groin hernia	1

included in the study, two with ruptured abdominal aortic aneurysm did not have DRE and two with lower abdominal peritonitis did. In the study group, 67 patients had lower abdominal pain, 24 patients had upper abdominal pain. Clinical findings are shown in Table 1 and the initial diagnosis is shown in Table 2. Routine DRE did not alter initial diagnosis or the initial management plan in any patient. Rectal examination in 97 patients did not reveal any abnormality. Pelvic tenderness was demonstrated in three patients; two underwent appendectomy for inflamed appendix and the other was found to have pelvic inflammatory disease at laparoscopy.

Questionnaire results

Figure 1 shows the questions asked and the patients' response to them. Overall, 78 patients noted that they experienced discomfort during the examination and 19 stated that they actually suffered pain. This was in contrast to the assessment by the doctors who performed the examination, who found that only 8 patients suffered pain and 52 discomfort.

The majority of patients wanted to know exactly why this examination would be required and most agreed that they were given a full explanation before the examination. Although our emergency surgical unit did not have separate cubicles for men and women, most patients were happy about privacy during the examination. Although 89 patients were willing to undergo a repeat examination if required, only half were willing for a routine DRE if it might not help in the immediate management plan for their condition. In the group, 54 patients preferred to have the DRE at the time of other bowel tests should they require them, rather than at the time of the emergency admission.

Discussion

Rectal examination is an important component of clinical evaluation, when assessing anorectal and urinary symptoms. Although DRE contributes greatly to the

diagnosis in certain circumstances, it can be unpleasant for the patient. Patients are placed in a potentially embarrassing position and the examination interferes with their privacy. Although curtains are drawn, the examination usually takes place in the general ward and sometimes in a mixed emergency ward in the accident and emergency department. Patients have been noted to become quiet and avoid eye contact after such intimate examination.³ The same study also demonstrated that male patients younger than 40 years experienced more pain and embarrassment, regardless of the examiner's gender. Often rectal examination may not contribute to the diagnosis or the immediate management plan. A change of practice in performance of routine rectal examination in children had not resulted in any adverse effect. A study published in 1991 observed that although the rate of rectal examination was halved in a 5-year period, diagnostic accuracy and morbidity rates were similar in two groups of children.⁴

Sensitivity of DRE is limited in patients with acute abdominal pain. Clear guidelines exist regarding DRE in children. In paediatric trauma, DRE is reserved for cases where it would alter management and is done by a senior surgeon who is going to make treatment decisions.⁵ Current evidence also argues that DRE in children with acute abdominal pain is a specialist investigation, which should be performed only if it would alter management.⁶ Dixon and colleagues⁷ performed one of the largest studies on the use of DRE in patients with pain in the right lower quadrant of the abdomen in 1991. In their study, 85% of 1204 patients ranging in age between 7 and 87 years, who were admitted with right lower quadrant abdominal pain, underwent rectal examination during clinical evaluation. Routine DRE made no difference to the management plan of these patients. They concluded that a rectal examination is not necessary in patients with right lower quadrant abdominal pain and other physical signs of acute appendicitis.

A recently published paper demonstrated that rectal examination is unlikely to affect initial management when routinely applied to all severely injured patients during the secondary survey.⁸ Similarly, another study argued against the use of routine DRE in women aged under 40 years undergoing routine pelvic examination.⁹

Our study shows the limited value of routine rectal examination in patients admitted with acute abdominal pain. It also highlights the patients' view of our routine clinical practice. Nearly one in three patients replied that they would rather not have this examination as a routine. Currently, there are no specific studies available to assess the role of 'selective DRE' in the evaluation of adult patients with acute abdominal pain. If selective rectal examination is to be done, then the timing of the examination

needs to be evaluated. If the examination is to be performed by experienced doctors who would be taking treatment decisions, then the impact on training of junior doctors needs to be assessed. Also, medicolegal implications of performing unnecessary internal examinations should be weighed against missing an incidental finding due to selective examination.

Conclusions

Various routine practices in the medical field have gradually given way to evidence-based practice. Our prospective study has demonstrated the limited role of routine DRE in adults with acute abdominal pain.

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