

# Relationship of proctitis and rectal capacity in Crohn's disease

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**SUMMARY** In patients with Crohn's disease involving the rectum (n=25), there was an inverse relationship between rectal capacity and the degree of proctitis. However, in patients with Crohn's disease not involving the rectum (n=22) the rectal capacity was similar to that of normal controls (n=20). The frequency of defaecation was not related to the degree of proctitis or to the pressure of a colectomy and ileorectal anastomosis. Control subjects had a significantly lower frequency of defaecation than patients with Crohn's disease irrespective of involvement of the rectum.

The effect of rectal distension on defaecation has been studied in patients with rectal prolapse and megacolon.<sup>1,2</sup> The extent to which a subject tolerates rectal distention depends on his or her individual sensitivity. This tolerance tends to decrease in elderly patients and is reduced in an inflamed rectum.<sup>3,4</sup> The present study evaluates the relationship between rectal capacity and the presence or severity of proctitis in Crohn's disease.

## Methods

### PATIENTS

Forty-seven patients with histologically proven Crohn's disease were studied. There were 25 females (mean age 38 years, 17-65) and 22 males (mean age 34.4 years, 19-59). There were two groups, 24 patients had undergone total colectomy and ileorectal anastomosis and the remaining 23 had had caecal excision with resection of the terminal ileum. There were four patients with a diverting ileostomy in each group.

Twenty subjects, nine females (mean age 41 years, 25-96 years) and 11 males (mean age 49 years, 26-75 years) with no gastrointestinal symptoms acted as controls.

### METHOD

Patients were asked about frequency of defaecation and consistency of the stool. Sigmoidoscopy was performed to at least 20 cm with a rigid instrument without bowel preparation. The sigmoidoscopic findings were graded by an arbitrary score as

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shown in the Table. Rectal capacity was measured with a Latex balloon, measuring 50×120 mm attached over a polyethylene tube (external diameter 4 mm). The tube was placed in the rectal ampulla, so that the lower end lay 2-3 cm above the dentate line. In the control subjects and those with mild proctitis the balloon was inflated incrementally with 50 ml aliquots of air injected over 10 seconds allowing a 30 second rest between each insufflation. In patients with moderate or severe proctitis only 10 ml of air was injected each time. Inflation was stopped when rectal distension became intolerable or reached a volume of 400 ml. The patient was asked to indicate (1) when a sense of rectal distention was first appreciated (sensation threshold); (2) when the sensation of rectal distention persisted during the 30 second rest (constant sensation); and (3) when the sensation became intolerable (maximal tolerated volume).

Table Assessment of proctitis

	Number of points
<i>Rectal appearance</i>	
Absence of vessels	1
Fine granularity of mucosa	2
Coarse granularity of mucosa	3
Contact bleeding	3
<i>Ulceration</i>	
Seen at only one site	1
Present throughout rectum	2
Large confluent ulcers	3
<i>Extent of any visible abnormality</i>	
Below 8 cm	1
Entire rectum	2
<i>Grade of proctitis</i>	
Normal	0
Slight	1-3
Moderate	4-7
Severe	8-11





that both factors may be responsible. First the sensation threshold was apparent immediately after introducing the balloon into the rectum in Crohn's disease patients, but never in control subjects. Secondly, the reduced distensibility of a rectum with severe proctitis can be appreciated by the observer on sigmoidoscopy.

Although, in normal subjects, the rectal walls are usually opposed,<sup>6</sup> normal or even increased distensibility of the rectum with mild proctitis may help those patients with an ileorectal anastomosis to have a tolerably low frequency of defaecation.

It is interesting to notice that frequency of defaecation was not related to the degree of proctitis. Patients with regional enteritis often have stools with a consistency like porridge which they pass more frequently. Nevertheless, soft stools or the presence of proctitis was not found to be the cause of occasional incontinence. In this group, incontinence was related to urgency, which, in its turn, was related to the speed of filling of the rectum.<sup>7</sup>

It is known from studies in other conditions that the sensitivity of the rectal wall to distention is increased in disease states.<sup>8-10</sup> Although there is no significant difference between maximal tolerated volume in patients with Crohn's disease without proctitis and controls, the proportion of patients tolerating 400 ml of air in the rectal balloon without any discomfort was higher in the patients with regional enteritis. It is possible that Crohn's disease damages the muscle or nerves of the bowel and decreases its sensitivity before it has any demonstrable effect on the mucosa.<sup>11 12</sup>

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