SOLITARY RECTAL ULCER : CLINICO PATHOLOGICAL PROFILE OF A STUDY

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ABSTRACT

Eighteen rectal biopsies of eleven patients were histologically diagnosed as solitary rectal ulcer (SRU) during a period of three years. Their clinical and sigmoidoscopic features were analysed. Correct clinical diagnosis of SRU was made in only two out of eleven cases, the rest were diagnosed after sigmoidoscopy and biopsy. Presenting features were protean predominated by an altered bowel habit or bleeding per rectum. Sigmoidoscopically the location of the lesion varied from 6 to 12 cm from the anal verge. Anterior rectal wall was more commonly affected (10 out of 11 cases). Single rectal ulcer was found in 7 patients, other 4 showing multiple ulcers or polypoidal non-ulcerative lesions. Three patients required multiple biopsies. Prominent histological findings were obliteration of lamina propria by fibromuscular strands, splaying and hypertrophy of muscularis musosae as well as infiltrate in both these layers. The necessity of biopsy to diagnose SRU is stressed.

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KEY WORDS : Rectal diseases; Sigmoidoscopy.

Introduction

Solitary rectal ulcer is now an established diagnostic entity [1]. Its definitive description came about three decades ago [2,3]. It is a relatively uncommon lesion often mistaken for malignancy and inflammatory bowel disease. Its aetiology is unknown but several hypotheses have been propounded [1]. Patients may present with diverse clinical problems such as straining at stool, constipation, diarrhoea, tenesmus or bleeding per rectum. The condition is a misnomer in that more than one ulcer or non ulcerative lesions may found [4]. The present study comprised of 11 cases picked up histologically as SRU between 1987 and 1990.

Material and Methods

Eighteen rectal biopsies obtained from 11 different individuals diagnosed as SRU formed the material for this study. Clinical and sigmoidoscopic details were collected from the case records after confirmation of

histological diagnosis.

The histologic criteria adopted to diagnose SRU were those described by various authors [3-6] viz,

- a) Mucosal ulceration.
- b) Excess collagen filling lamina propria with obliteration of normal architecture.
- c) Fibromuscular strands extending up from muscularis mucosae.
- d) Misplaced islands of mucosal glands into submucosa mostly at the edge of ulcer.
- e) Submucosal fibrosis.
- f) Splaying and thickening of muscularis mucosae.

Following the histological diagnosis, collation with clinical and sigmoidoscopic criteria given by other authors [1,4] was done. These criteria are :-

- a) History of many years of an altered bowel habit or bleeding per rectum not responding to conventional treatment.
- b) Sigmoidoscopically a shallow ulcer on

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the anterior rectal wall up to 10 cm from the anal verge, surrounded by a zone of hyperaemia merging in to normal mucosa with the base said to look like 'washed leather'.

Results

The age of the patients varied from 14-62 years. Table 1 shows the presenting features and the initial clinical impression formed. Three cases were suspected to have carcinoma and 4 cases were suspected as suffering from ulcerative colitis. The initial diagnosis of SRU was made in only 2 cases both of whom were young adolescents. In the present study, sigmoidoscopic examination revealed lesions 6-12 cm away from anal verge most (8/11) being located on the anterior rectal wall and rest on the lateral walls. The commonest type of lesion was ulcerative with or without surrounding hyperaemia (9/11), although nodular growth was not uncommon (2/11). In majority of cases (7/11) single ulcer was seen. Two cases, showed multiple ulcerations.

Various histological features found in the 18 biopsies in these patients have been summarised in Table 2.

Discussion

The first report of a condition corresponding to SRU was made by Curvelheir in 1830 [4]. The term 'solitary rectal ulcer' was introduced by Llyod-Davies in 1927 [3]. The first accurate description of the entity was a case report in 1964 [2]. In 1968, Madigan and Morson [3] gave a comprehensive review of 68 cases embracing clinical, sigmoidoscopic, histologic and therapeutic aspects of SRU. Since then there have been several reports from abroad and India [4-9].

In the present study, a male preponderance was observed (72.8%). This may be due to bias in sample collection from service hospitals. In the largest review [4] there has been no significant sex predilection. Even though it is reported to be common in young adults [1,2], patients in all age groups were affected.

The patients presented with bleeding per rectum with or without constipation, tenesmus, constipation alternating with diarrhoea or diarrhoea alone. Such diversity of symptoms have also been observed by other authors [9,10] and explains detection only by sigmoidoscopy.

TABLE 1
Clinical features and initial diagnosis of 11 cases.

Case no	Age	Sex	Presenting features	Initial clinical impression
1.	15	M	Bleeding per rectum and tenesmus	SRU
2.	39	M	Mucus, blood per rectum and tenesmus	Ulcerative colitis
3.	15	F	Bleeding per rectum	SRU
4.	32	M	Bleeding per rectum	Neoplastic polyp/carcinoma (4)*
5.	38	M	Intractable diarrhoea	Ulcerative colitis
6.	62	F	Constipation/diarrhoea	Non specific colitis
7.	60	M	Diarrhoea with blood and mucus	Ulcerative colitis with inflammatory polyps (3)*
8.	59	M	Bleeding per rectum and constipation	Carcinoma Rectum (2)*
9.	14	F	Blood and mucus containing diarrhoea	Acute ulcerative colitis/non specific colitis
10.	34	M	----- do -----	--- do ---
11.	47	M	Constipation alternating with diarrhoea	Carcinoma rectum (2)*

*Multiple number (figures within parentheses) of biopsies were done as clinician thought that main lesion has been missed in initial biopsy.

TABLE 2

Frequency of various histological features (11 patients) and its comparison with other studies.

Sr no.	Histological features	Present study (n=11)	Malik <i>et al</i> (7) (n=33)	Madigan and Morson (3)# (n=68)	Rutter (5)# (n=105)
1.	Extension into lamina propria and its obliteration, by fibro muscular strands* (Fig 1)	11	97%	++	++
2.	Splaying of muscularis mucosae*	9	(—)	++	(—)
3.	Infiltrate into lamina propria and muscularis mucosae (Fig 2)	8	57%	(—)	(—)
4.	Hypertrophy of muscularis mucosae*	7	93%	++	++
5.	Epithelial hyperplasia and goblet cell depletion	4	60%	+	+
6.	Colitis cystica profunda (misplaced mucosal glands in submucosa)	2	6%	+	+
7.	Changes in the lining epithelium and pseudo-stratification	2	(—)	(—)	(—)
8.	Sparsity of glands, intracellular mucin, crypt distortion, crypt abscess	1	45%	(—)	(—)
9.	Submucosal fibrosis*	Nil	75%	++	++

* Diagnostic criteria

Percentage not available, ++ lesions with high frequency, + lesions with low frequency, (—) not reported

Fig. 1 : Showing fibromuscular strands travelling upwards from muscularis mucosae obliterating lamina propria.

Fig. 2 : Showing dense mononuclear infiltrate in muscularis mucosae and lamina propria.

According to Devroede [11] patients with SRU have an internal rectal prolapse and complain of obstructed defaecation, even anismus (which is failure to pass any marker for 5 days). A variety of pelvic floor abnormalities have been described causing abnormal bowel habits. However, diarrhoea remains unexplained by all these hypotheses. The ulceration of rectal mucosa has been proposed to be due to chronic trauma and/or ischaemia with functionally deranged puborectalis

muscle [1]. The latter fails to relax during defaecation creating an acute ano-rectal angle and increased intra rectal pressure [1,11].

The sigmoidoscopic findings in the present study were also extremely variable. The lesions were located within 6-12 cm from the anal verge. Majority of the lesions were present in the anterior wall and two amongst these extended to the lateral walls. Although nomenclature suggests that ulcers should be solitary, multiple ulcers and non ulcerated

lesions have been found by other workers too [1,4,5]. The ulcers were superficial in six cases and all ulcerative lesions had friable margins with dirty floor. The hyperaemia seen around the ulcer in 14 cases extended to much beyond the ulcerated area. Rutter et al in their study, concluded that well punched out ulcers with clear demarcation of the surrounding area is the most commonly seen morphology. Madigan and Morson [3] have described ulcer location from 3-15 cm, varying in size from a few mm to 2 cm and differing in shape from linear, serpiginous to round or oval.

They found most ulcers were covered with slough of white, grey or yellow colour, in contrast to clean bases as observed by Rutter [4]. Madigan and Morson [3] have described lumpy, polypoid, hypertrophic and hyperaemic areas of mucosa corresponding to the size and site of ulcer. Close observation of the surrounding areas may reveal micro ulcerations, described as pre-ulcerative stage. The most frequent histopathological findings observed by us are fibromucular strands obliterating lamina propria, splaying of muscularis mucosae as well as infiltrate in both these layers. It is concluded that submucosal changes should not be relied upon since most biopsies do not include this layer.

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