Solitary Rectal Ulcer Syndrome: Demographic, Clinical, Endoscopic and Histological Panorama

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ABSTRACT

Objective: To assess the demographic, clinical, endoscopic and histological spectrum of Solitary Rectal Ulcer Syndrome (SRUS).

Study Design: Cross-sectional observational study.

Place and Duration of Study: Medical Unit-III, Civil Hospital Karachi (CHK) and Ward 7, Jinnah Postgraduate Medical Centre (JPMC), Karachi, from January 2009 to June 2012.

Methodology: Patients with SRUS, based on characteristic endoscopic and histological findings, were enrolled. Patients were excluded if they had other causes of the rectal lesions (neoplasm, infection, inflammatory bowel disease, and trauma). Endoscopically, lesions were divided on the basis of number (solitary or multiple) and appearance (ulcerative, polypoidal/nodular or erythematous mucosa). Demographic, clinical and endoscopic characteristics of subjects were evaluated.

Results: Forty-four patients met the inclusion criteria; 21 (47.7%) were females and 23 (52.3%) were males with overall mean age of 33.73 ±13.28 years. Symptom-wise 41 (93.2%) had bleeding per rectum, 39 (88.6%) had mucous discharge, 34 (77.3%) had straining, 34 (77.3%) had tenesmus, 5 (11.4%) had rectal prolapse and 2 (4.5%) had fecal incontinence. Twelve (27.27%) patients presented with hemoglobin less 10 gm/dl, 27 (61.36%) with 10 - 12 gm/dl and 05 (11.36%) subjects had hemoglobin more than 12 gm/dl. Endoscopically, 26 (59.1%) patients had mucosal ulceration, 11 (25.0%) had mucosal ulceration with polypoid characteristics; while only polypoid features were found in 7 (15.9%) subjects.

Conclusion: Solitary rectal ulcer syndrome affects adults of both genders with diverse clinical presentation and non-specific endoscopic features.

Key Words: Solitary rectal ulcer syndrome. Endoscopy. Clinical presentation.

INTRODUCTION

Solitary Rectal Ulcer Syndrome (SRUS) is an uncommon, chronic, benign disorder of young adults, affecting the rectum and often relates to straining or abnormal defecation. Its incidence was estimated at one in 100,000 per year in a 10-year study in Northern Ireland. The lesion was first reported in 1829, but its clinical manifestations and histopathology were not described until 1969. The term SRUS probably is a misnomer; because ulcers are only found in 40% of patients, while 20% of patients have a solitary ulcer, and the rest of the lesions vary in shape and size, from hyperemic mucosa to broad-based polypoid lesions. The lesions are located in the anterior rectal wall within 10 cm of the anal verge in the majority of patients.

The clinical spectrum of this syndrome results from obstructed defecation secondary to internal rectal prolapse with a collection of symptoms, which may be variable or even absent. When present, most common symptoms include: rectal bleeding (56%), straining (28%), rectal fullness (23%). Less frequently described symptoms were mucus discharge, incontinence, tenesmus and pain. Unless recognised, the diagnosis can be delayed and be mistaken for non-specific ulcer, inflammatory bowel disease or neoplasm.

Different treatment options like biofeedback, sucralfate enema, and surgery for SRUS have been tried and aimed to correct the underlying processes. El-Hemaly et al. reported that the results of surgery and biofeedback are satisfactory in comparison to conservative treatment.

To the best of authors’ knowledge, there was very negligible local data on this very entity of SRUS. The objective of this study was to assess the demographic, clinical, endoscopic and histological spectrum of SRUS.

METHODOLOGY

This cross-sectional study was conducted at Medical Unit III, CHK and Ward 7, JPMC, from January 2009 to June 2012. Patients either admitted in ward or attending...
G.I. Clinic were enrolled in the study after taking informed written consent. After detailed history and physical examination, all patients were evaluated with routine blood investigations, stool tests (microscopy and culture) for infections, and endoscopy (sigmoidoscopy or colonoscopy).

Diagnosis of SRUS was based on characteristic, endoscopic and histological findings. After endoscopic findings, lesions were divided on the basis of number (solitary or multiple) and appearance (ulcerative, polypoidal/nodular or erythematous mucosa). Patients were excluded if they had other causes of the rectal lesions (neoplasm, infection, inflammatory bowel disease, and trauma).

This study was approved by the Ethical Review Committee of the Hospital.

SPSS version 16 was used to manage and analyze data. Quantitative variables were expressed as mean ± standard deviations and qualitative variables as frequencies (percentages).

RESULTS

A total of 44 patients were enrolled in the study who met the inclusion criteria, among those, 21 (47.7%) were females, while 23 (52.3%) were males with overall mean age of 33.73 ±13.28 years. The patient demographics are shown in Table I.

Regarding clinical spectrum, the symptomatology was highly variable and described in Table II. Twelve (27.27%) patients presented with hemoglobin less than 10 gm/dl, 27 (61.36%) with 10 - 12 gm/dl, while 05 (11.36%) subjects had hemoglobin more than 12 gm/dl. Mean duration of presenting symptom/s was 18 ±0.98 months ranging from 1 month to 48 months.

Table I: Demographical and haematological data at presentation.

<table>
<thead>
<tr>
<th>Variable</th>
<th>Result</th>
</tr>
</thead>
<tbody>
<tr>
<td>Age (years) *</td>
<td>33.73 ±13.283</td>
</tr>
<tr>
<td>Gender</td>
<td></td>
</tr>
<tr>
<td>Male</td>
<td>23 (52.3%)</td>
</tr>
<tr>
<td>Female</td>
<td>21 (47.7%)</td>
</tr>
<tr>
<td>Hemoglobin (g/dL) *</td>
<td>10.502 ±1.29</td>
</tr>
<tr>
<td>MCV (fl) *</td>
<td>62.091 ±9.532</td>
</tr>
<tr>
<td>Hematocrit (%) *</td>
<td>33.75 ±4.325</td>
</tr>
</tbody>
</table>

* In mean, standard deviation

Table II: Clinical manifestation of studied subjects.

<table>
<thead>
<tr>
<th>Clinical feature</th>
<th>n</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bleeding per rectum</td>
<td>41</td>
<td>93.2</td>
</tr>
<tr>
<td>Mucus discharge</td>
<td>39</td>
<td>88.6</td>
</tr>
<tr>
<td>Constipation</td>
<td>34</td>
<td>77.3</td>
</tr>
<tr>
<td>Straining</td>
<td>34</td>
<td>77.3</td>
</tr>
<tr>
<td>Tenesmus / pain</td>
<td>32</td>
<td>72.7</td>
</tr>
<tr>
<td>Digital / manual evacuation</td>
<td>06</td>
<td>13.6</td>
</tr>
<tr>
<td>Rectal prolapse</td>
<td>05</td>
<td>11.4</td>
</tr>
<tr>
<td>Fecal incontinence</td>
<td>02</td>
<td>4.5</td>
</tr>
</tbody>
</table>

Regarding the endoscopic spectrum, 26 (59.1%) patients had mucosal ulceration, 11 (25.0%) cases had mucosal ulceration with polypoid characteristics, while only polypoid features were found in 7 (15.9%) subjects. Furthermore, pertaining to site of lesion, it was found on anterior wall in 26 (59.09%) patients, on posterior 7 (15.9%), while circumferential lesion was found in 11 (25.0%), cases. There was variable presentation regarding the distance of lesion from anal verge; it was ≤ 4 cm in 10 (22.72%) patients, 5 - 8 cm in 28 (63.63%) cases, while 6 (13.63%) subjects had the lesion > 8 cm from anal verge.

On the basis of more diagnostic tool of histopathological spectrum, all cases had typical microscopic appearance of fibromuscular obliteration.

DISCUSSION

Although SRUS is an uncommon condition that usually affects young adults when the mean age at presentation is the third and fourth decade of life; but its variable presentation and chronicity make it a diagnostic as well as management challenge for physicians. The etiology of SRUS is unknown but several different proposed mechanisms brought into account for its origin; and among those, ischemia is considered an important factor in the development of SRUS with small-vessel trauma at the apex of a prolapsing mucosal fold predisposing to ischemia. The presence of internal or external rectal prolapse and paradoxical contraction of the pelvic floor might be the factor for the development of SRUS, with the high rectal pressures needed to produce rectal voiding in the presence of external sphincter contractions predisposing to ischemia and ulceration of the rectal mucosa. Other theories regarding its cause suggest local proctitis, hamartomatous abnormality of rectal mucosa and digital or instrumental or physiological trauma.

This study has substantiated the findings of previous studies that there is no gender difference in the incidence of the SRUS; and similarly, it was also observed that it seems to be principally a disease of young adults.

The clinical spectrum in current study is almost similar to previous published studies which showed that bleeding per rectum being the commonest presenting symptom followed by mucus discharge, tenesmus, constipation, rectal prolapse and fecal incontinence. These wide range of symptoms had made this clinical entity very difficult to be diagnosed solely on the basis of mere symptoms. It might be the main reason for incidence of under- and mis-diagnoses as reported in literature.

Similar to clinical spectrum of SRUS, endoscopic spectrum of SRUS may be variable ranging from simple hyperemic mucosa to small/large ulcers to broad-based polypoid lesions of variable sizes and numbers. Regarding the endoscopic features, this study results
were also consistent with published literature. The most common endoscopic appearance was simple mucosal ulceration followed by mixed pattern of mucosal ulceration with polyoid characteristics whereas 13% cases shared only polyoid features. These different observations along with fact that deficient clinicians’ familiarity with endoscopic uncovering attributes, make it sometimes a real diagnostic challenge.

Because of both versatile clinical as well as diverse endoscopic characteristics, the condition may go unrecognized or, more commonly, misdiagnosed; so it is crucial to have a histopathological look at the involved area for a positive confirmation of the diagnosis and to exclude other diagnoses, including cancer. The histology should have a peculiar appearance that includes a thickened mucosal layer along with distortion of the crypt architecture. The lamina propria is replaced with smooth muscle and collagen leading to hypertrophy and disorganisation of the muscularis mucosa, an appearance that has been referred to as fibromuscular obliteration. According to histopathologic spectrum in current study, we found a characteristic in fibromuscular obliteration in all subjects while crypts distortion was observed often less. This was in contrast to Al-Brahim and colleagues’ findings of all 13 patients having crypts distortion and surface serration.

The limitations of this study were unavailability of specialized investigations such as ano-rectal physiological testing and defaecography at the authors’ institution, so these details could not be studied. Hence, no differentiation or evaluation for any prolapse and the degree of prolapse could be made. Secondly, it was a cross-sectional study and thus no follow-up was done regarding disease progression and no treatment options could be provided.

CONCLUSION

The present study has highlighted that the SRUS is a disorder of younger age group with no gender predominance having a diverse clinical presentation. Due to its rarity, chronicity and so variable features, a high index of suspicion is needed to differentiate SRUS from other benign conditions and potentially devastating lethal disorders.

REFERENCES