

FREQUENCY OF SOLITARY RECTAL ULCER SYNDROME AMONG PATIENTS PRESENTING WITH BLEEDING PER RECTUM AT A TERTIARY CARE HOSPITAL

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Abstract: Solitary rectal ulcer syndrome is a multifaceted condition influenced by several clinical, histological, and endoscopic features. Treating this condition, especially in cases of relapse or non-responsiveness, requires a methodical and logical approach. This study aimed to determine the frequency of solitary rectal ulcer syndrome among patients presenting with rectal bleeding at a tertiary care hospital. This descriptive, cross-sectional study was conducted at the Department of Gastroenterology, Ibn-e-Sina Hospital/Multan Medical and Dental College, Multan, from 10-06-2022 to 10-06-2023. A total of 369 patients with rectal bleeding were registered in the study. Baseline investigations, including histopathology, were conducted to diagnose solitary rectal ulcer syndrome. Of the 369 registered patients, 237 (64.2%) were male, and 132 (35.8%) were female, with a mean age of 52.16 ± 9.05 years. Of these, 253 (68.6%) were from rural areas, and 116 (31.4%) were from urban areas. In 224 (60.7%), poor socioeconomic status was noted, while 145 (39.3%) had a middle-income level. Diabetes was present in 97 (26.3%), and hypertension in 134 (36.3%). The mean body mass index was 25.23 ± 1.57 kg/m², and obesity was present in 56 (15.2%) patients. Solitary rectal ulcer syndrome was observed in 25 (6.8%) patients. The study concluded that there is a high frequency of Solitary rectal ulcer syndrome (SRUS) among patients presenting with rectal bleeding. Solitary rectal ulcer syndrome (SRUS) was significantly associated with increasing age, socioeconomic status, diabetes, hypertension, and obesity. All clinicians treating such patients should anticipate Solitary rectal ulcer syndrome (SRUS) for early diagnosis and proper management, which will improve their prognosis and quality of life.

Keywords: Rectal Bleeding, Solitary Rectal Ulcer Syndrome, Ulcer, Inflammation

Introduction

The unusual rectal illness known as solitary rectal ulcer syndrome (SRUS) can affect different rectum segments and other areas of the digestive tract without always leading to an ulcer (Ejaz et al., 2023). The existence of symptoms greatly influences the possibility of this condition. A colonoscopy directly examines the affected area, and a lesion's histology is examined to confirm the diagnosis. Despite this, there is still a lack of knowledge on the underlying causes, underlying mechanisms, and whole spectrum of clinical symptoms connected with SRUS. For example, inflammatory bowel disease (IBD) and neoplasms might be confused for SRUS due to the variable clinical symptoms and endoscopic findings (AIGHulayqah et al., 2016; Gouriou et al., 2018).

Constipation, lengthy and painful straining during bowel movements, a chronic sensation of incomplete defecation, rectal bleeding, a considerable discharge of mucus from the rectum along with abdominal discomfort, and, while infrequently, rectal prolapse are all clinical manifestations of SRUS. (Abdi et al., 2019). Although the pathophysiology of SRUS is still not completely known, it is likely to be impacted by various factors. According to the most popular and commonly acknowledged explanation, physical trauma or ischemia injury is significant in SRUS. (Forootan et al., 2018). The pelvic floor's paradoxical contraction is linked to the etiology, which prolapses mucosal tissue and causes pressure-

induced necrosis of the rectal mucosa. (Rao et al., 2006). Another theory states that SRUS develops due to irregular pressure gradients that the external anal sphincter causes to interfere with normal defecation patterns. SRUS frequently manifests in a way that can mimic other illnesses, such as inflammatory bowel disease (IBD) and neoplastic growths, given the wide variety of clinical symptoms and endoscopic findings. (Abusharifah et al., 2021). There are many ways to treat solitary rectal ulcer syndrome (SRUS), from basic measures like food modifications and bulk-forming drugs to more sophisticated ones, including medicinal interventions, biofeedback therapy, and surgery. Behavioral therapy, such as biofeedback, can be a useful treatment option when persistent straining is the underlying cause of SRUS. This method includes bowel habit training, reducing undue strain during bowel movements, and reestablishing the pelvic floor muscles' regular synchronization. According to a study by Zia et al., 4% of individuals with bleeding per rectum also had SRUS.

The study's findings may help doctors identify SRUS early and treat it quickly in patients with rectal bleeding. This is particularly significant because there hasn't been any prior research on this subject among our area's residents. Early detection can lessen the toll of associated morbidities and cut down on further hospital expenses, thus enhancing the quality of life for affected people.

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Methodology

This Descriptive, cross-sectional study was done at the Department of Gastroenterology, Ibn – e – Sina Hospital / Multan Medical and Dental College (MMDC), Multan, from 10-06-2022 to 10-06-2023. The sample size was 369 patients with bleeding per rectum. Sample size has been calculated using the following formula: $n = z^2pq/d^2$, where, $p = 4\%$ (frequency of solitary rectal ulcer syndrome), $q = 100 - p$, $d = 2\%$.

Patients with Bleeding per rectum (any expulsion of bright red blood, dark blood, or dark blood mixed with stool with and without defecation and can be observed with the naked eye) of either sex aged 20 – 70 years having a history of bleeding > 2 weeks were included in this study. Patients with a previous history of rectal surgeries, recurrent cases, and those not giving consent to participation were excluded from our study. All the patients who meet the inclusion criteria of this study were registered from the Department of Gastroenterology of Ibn–Sina Hospital, MMDC, Multan. Once registered in the study, all the relevant baseline investigations, like histopathology, were done to diagnose solitary rectal ulcer syndrome.

All the data was entered and analyzed using SPSS-25. Descriptive statistics was applied to calculate the mean and standard deviation for the age of the patients. Frequencies and percentages were tabulated for categorical variables like gender, age groups, residential status, diabetes, hypertension, obesity, and solitary rectal ulcer syndrome.

Results

In our study, we included 369 patients who met our inclusion criteria. Of these, 237 (64.2%) were male patients, and 132 (35.6%) were female. The average age of all the study participants was 52.16 ± 9.05 years, with the minimum age being 39 and the maximum age being 69. The male patients had a mean age of 53.00 ± 9.86 years, while the female patients had a mean age of 50.64 ± 7.16 years ($p=0.016$). Most study participants (186 or 50.4%) were over 50 years old.

Discussion

Solitary rectal ulcer syndrome (SRUS) is a peculiar rectal disorder that can affect different areas of the rectum and other portions of the digestive tract but does not always cause the development of an ulcer (Jha et al., 2021). Rectal pain, rectal prolapse, bleeding, tenesmus, mucus discharge, chronic and severe constipation, prolonged straining during bowel movements, pelvic discomfort, and a persistent sense of incomplete evacuation are common symptoms that patients present with (Abdi et al., 2019; Shah et al., 2021). It is important to remember that up to 26% of SRUS patients may not have any obvious symptoms. Rectal bleeding is the clinical symptom that is most frequently mentioned.

237 (64.2%) of the 369 studied cases included male patients, whereas 132 (35.6%) had female patients. Similar findings were observed in a Lahore study by Mubashir et al. with a male-to-female ratio of 1.63:1 in individuals with rectal haemorrhage (MUBASHIR et al., 1997). A 2.3:1 male-to-female ratio was also found by Gardezi et al. from Lahore (Muhammad et al.). Seventy-six percent of patients with rectal haemorrhage are men, according to Soomro et al. from Larkana

As per the findings of our study, 253 (68.6%) of the 369 patients were from rural areas, while 116 (31.4%) were from metropolitan areas. Regarding socioeconomic status, 224 people (60.7%) had poor economic status, while 145 (39.5%) had a middling income. Additionally, 97 (26.3%) of the study cases had diabetes, and 134 (36.3%) had hypertension.

The average BMI of our study participants was 25.23 ± 1.57 kg/m², and 56 (15.2%) were obese. We also found that 25 people (6.8%) had solitary rectal ulcer syndrome.

Table No. 01 Stratification of solitary rectal ulcer syndrome with study variables. (n = 369)

| Study variables | Solitary rectal ulcer syndrome | | P – value |
|-----------------------------|--------------------------------|------------|--------------|
| | Yes (n=25) | No (n=344) | |
| Gender | | | |
| Male (n=237) | 17 | 220 | 0.830 |
| Female (n=132) | 08 | 124 | |
| Age groups | | | |
| Up to 50 Years (n=183) | 00 | 183 | 0.001 |
| > 50 Years (n=186) | 25 | 161 | |
| Residential status | | | |
| Rural (n=253) | 17 | 236 | 0.999 |
| Urban (n=116) | 08 | 108 | |
| Socioeconomic status | | | |
| Poor (n=224) | 08 | 216 | 0.006 |
| Middle income (n=145) | 17 | 128 | |
| Diabetes | | | |
| Yes (n=97) | 25 | 72 | 0.001 |
| No (n=272) | 00 | 272 | |
| Hypertension | | | |
| Yes (n=134) | 25 | 109 | 0.001 |
| No (n=235) | 00 | 235 | |
| Obesity | | | |
| Yes (n=56) | 17 | 39 | 0.001 |
| No (n=313) | 08 | 305 | |

(Soomro et al., 2011). Shah et al. 20 reported that patients with bleeding per rectum were 56 percent more likely to be men in their study done in Peshawar. According to a study in Bahawalpur by Abdullah et al. (Abdullah et al., 2017), 65.71 percent of the patients were male and had rectus hemorrhage. Our study's cases had a mean age of 52.16 ± 9.05 years (39 years to 69 years). The mean age of the male patients was 53.00 ± 9.86 years, compared to 50.64 ± 7.16 years for the female patients ($p=0.016$), and 186 (50.4 percent) were above 50. According to a Lahore-based study by Mubashir et al., most patients with rectal bleeding were between the ages of 40 and 49 and 60 and 69 (MUBASHIR et al., 1997). The mean age of the patients with bleeding per rectum was 48.9 years, according to Gardezi et al. 18 from Lahore. The mean age of patients with rectal bleeding was 49.52 ± 15.42 years, according to Soomro et al. 19 from Larkana. Similar findings were also reported by Shah et al. in Peshawar research (Shah et al., 2016). The average age of patients with rectal bleeding was 58.69 ± 7.91 years in a research done in Bahawalpur by Abdullah et al. (Abdullah et al., 2017).

253 (68.6%) of the 369 research cases came from rural areas, and 116 (31.4%) came from metropolitan areas. Two hundred twenty-four people (60.7%) had poor socioeconomic status,

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while 145 (39.5%) had a middling income. According to Mubashir et al. study in Lahore, 61 percent of rural patients had rectal bleeding, and 75 percent came from low socioeconomic backgrounds, similar to our study's findings (MUBASHIR et al., 1997).

97 (26.3 percent) of the study cases had diabetes. 134 (36.3 percent) of the studied cases had hypertension. The average BMI of the study participants was 25.23 ± 1.57 kg/m², and 56 (15.2%) participants were obese. According to Bardou et al. (Bardou et al., 2013), 11% of Europeans were obese and had rectal bleeding, which is similar to the findings of our study. Solitary rectal ulcer syndrome (SRUS) was observed in 25 (6.8 %). A study conducted by Zia et al. has reported 4 % solitary rectal ulcer syndrome in patients with bleeding per rectum. (Zia et al., 2008) These results comply with our study results.

Conclusion

Our study found a high frequency of Solitary Rectal Ulcer Syndrome (SRUS) among patients who presented with per rectal bleeding. We also found that SRUS was significantly associated with increasing age, socioeconomic status, diabetes, hypertension, and obesity. To improve the prognosis and quality of life of patients, it is important for clinicians to anticipate the possibility of SRUS and make an early diagnosis for proper management.

Declarations

Data Availability statement

All data generated or analyzed during the study are included in the manuscript.

Ethics approval and consent to participate

Approved by the department Concerned.

Consent for publication

Approved

Funding

Not applicable

Conflict of interest

The authors declared an absence of conflict of interest.

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