

## Laparoscopic Rectopexy in Solitary Rectal Ulcer

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**Abstract-** Patients with Solitary Rectal Ulcer Syndrome (SRUS) come to a physician with passage of mucus and bloody liquid within defecation. The treatment for SRUS is depended to the severity of symptoms and the existence of rectal prolapse. This study is a report of the assessing of rectopexy as surgical modalities for 62 medical treatment resistant SRUS patients who were referred to the gastrointestinal department of Shahid Sadoughi Medical University and Mojibian hospital. The present non-randomized clinical trial was carried out in 62 SRUS patients from 1991 till 2005. In these patients SRUS was confirmed by histology. They were symptomatic after conservative therapy and referred for surgical intervention. All of them had been undergone abdominal rectopexy by two laparoscopic surgeons. In our study, rectal bleeding and history of digitalization had the highest and lowest frequency of symptoms and signs in our cases respectively. Abdominal rectopexy was done in 39 cases and complete recovery in our cases was 69.23%. Complete recovery rate in cases with dysplasia (63.8%) was significantly higher than cases without that ( $P=0.04$ ). Complete recovery rate in cases that had finger defecation (85%) was significantly higher than cases without that (50%) ( $P=0.03$ ). Laparoscopic rectopexy is one of the main surgical techniques for treatment of SRUS. This technique can present complete recovery for SRUS patients. Some of them include topical medications, behavior modification supplemented by fiber and biofeedback and surgery were more available and studied. But it seems that education of SRUS patient conservative treatment remain cornerstone in the SRUS management.

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### Introduction

Solitary Rectal Ulcer Syndrome (SRUS) was first described in 1829 and its clinicopathological feature was reported in 1969 (1-2). SRUS patients present with the passage of mucus and bloody liquid within defecation (3-4). Almost 26% of patients are asymptomatic and SRUS is discovered accidentally in assessment of other disorders (5). The mean period between symptoms presentation and diagnosis is around five years (6-7).

Treatment for SRUS depends on the severity of symptoms and existing of rectal prolapse. There is no definitive treatment for that due to the existence of just a few therapeutic control trials. Wide spectrum therapeutic modalities from behavioral modification to surgery have been suggested for treatment of SRUS. Surgical

modalities are reported for patients who are resistant to conservative treatment. First line treatment in this disorder is biofeedback and behavioral approach. In this approach, we try to train discipline of defecation and the use of laxative agents (8). Treatment of SRUS is usually started by combination of psychological and physiological elements which can relief the symptoms in more than half of patients. But after around nine months of follow up time, 75% of patients aren't reported to be asymptomatic completely (9). Some researchers such as Halligan believe that rectopexy can be presented by complete treatment in patients with SRUS (10). Significant improvement or complete response to surgical modalities are reported in 55-60% of patients in other studies (11). In Tjandra study, around 28% of SRUS patients received complete ulcer healing and 33%

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of them were resistant to rectopexy (5). According to recent investigations, rectopexy alters rectal configuration and successfully treat rectal prolapse in SRUS patients (10). The present study is aimed to assess rectopexy as surgical modality for 62 medical treatment resistant SRUS patients who were referred to gastrointestinal department of Shahid Sadoughi Medical University and Mojibian hospital.

## Materials and Methods

The present non-randomized clinical trial was carried out in 62 SRUS patients referred to Shahid Sadooghi University of Medical Sciences and Mojibian Hospital from 1991 till 2005. SRUS in these patients was confirmed by histology. We collected demographic data, clinical presentations, endoscopic and histological findings and treatment modalities of these patients in one record list.

### Treatment modalities

None of our cases had biofeedback therapy or defecography as a conservative treatment. They were treated for three months with following medications: Folic acid tablet (1 mg/daily); Prednisolon tablet (30mg/daily); Asacol rectal (two in the morning and one in the night) and Sulfasalazine (2.5g/ daily).

Patients who remained symptomatic despite medical treatments were referred for surgical intervention. All of them underwent abdominal rectopexy. This procedure was performed by one laparoscopic surgeon, inserting a piece of 10 x 5 centimeters polypropylene knitted mesh in presacral space with preserving presacral autonomic nerves and superior rectal artery. The mesh was fixed to

sacral promontory by 2/0 silk sutures just below the peritoneal reflxion. For assessing histological changes, patients were divided in two with and without dysplasia groups. Patients underwent surgical treatment were evaluated according to their bowel habit for presence or absence of finger defecation.

### Statistical analysis

Data were analyzed using SPSS for Windows version 16. Quantitative variables were presented by central indices (Mean and Standard error of mean) and qualities variables were presented by the frequencies tables (frequency and Percentages). Fisher exact test was used for comparison of the operative results. To assess the relationship between preoperative clinical variables and surgical outcome, the Chi-square and the Fisher exact test were performed. Two-tailed significance level of 0.05 was used to detect difference between variables.

## Results

Among 62 cases, 35 cases were male and 27 cases were female. Their ages ranged from 6 to 82 years with the mean age of 29.5 years and the follow up duration was from 6.5 months till 96 months. Mean period of follow up of disease in our cases was 31.56 months.

### Symptoms and signs and overall response to surgical modality in our cases

The most frequent symptom was rectal bleeding (98% of cases) and 67/7% of patients had the history of digitalization. Frequency of other symptom and signs are presented in figure 1.

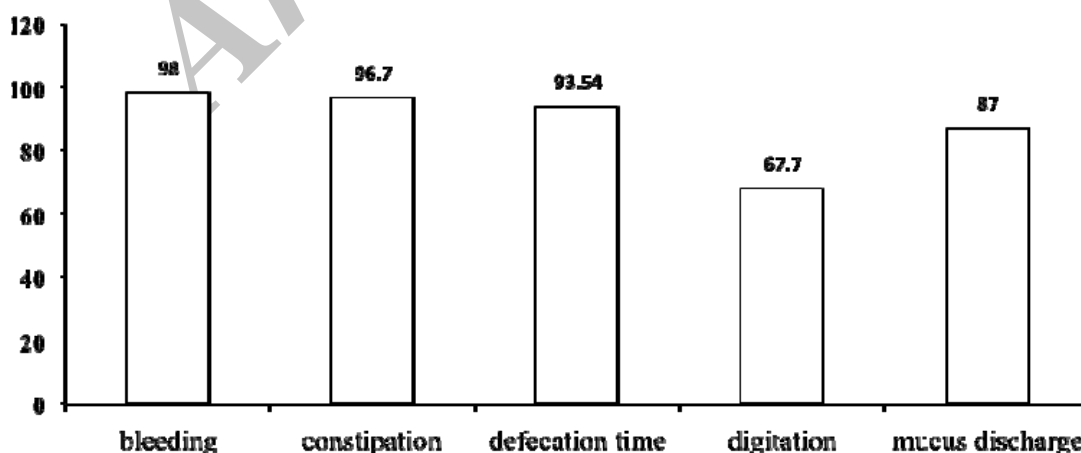


Figure 1. Frequency of symptoms and signs in the study population with SRUS.

Table.1. Results of the medical treatment of patients with and without dysplasia

Dysplasia	Results	Complete recovery		Partial recovery		No recovery		Total	
		No.	%	No.	%	No	%	No.	%
Present		37	63.8	16	27.6	5	8.6	58	100
Absent		0	0	3	100	0	0	3	100
Total		37	60.7	19	31.1	5	8.2	61	100

P-value=0.04

Ten cases never accepted any medical or surgical treatment, five of them had no change in their symptoms after the observation period but in five cases there were not any symptoms. Thirteen cases took medical treatment. The symptoms were controlled in ten patients and in three cases medical treatment failed. Thirty nine cases underwent laparoscopic abdominal rectopexy and in 27 cases the symptoms were controlled but in 12 cases surgical treatment failed (69.2 versus 30.8%). The comparison of therapeutic results of medical treatment, surgery modalities and control groups in our cases is presented in figure 2 and table 1.

Comparison of treatment results according to histological changes and bowel habit

In the group of cases with dysplasia 37 cases (63.8%) had complete recovery, 16 cases (27.6%) had

partial, and five cases (8.6%) had no recovery. However, in the group of cases without dysplasia all cases had partial recovery and no case of complete or no recovery was seen. The differences between these two groups of cases were statistically significant (P=0.04).

In terms of bowel habit, in cases that had finger defecation 17 cases (85%) had complete recovery, two cases (10%) had partial and one case (5%) had no recovery after surgery. In the group of cases without finger defecation, 17 cases (50%) showed complete recovery while 13 cases (38.2%) had partial and four cases (11.8%) showed no recovery. There were significant differences between these two figures (P=0.03). Results of the surgical treatment of patients with and without finger defecation are presented in table 2.

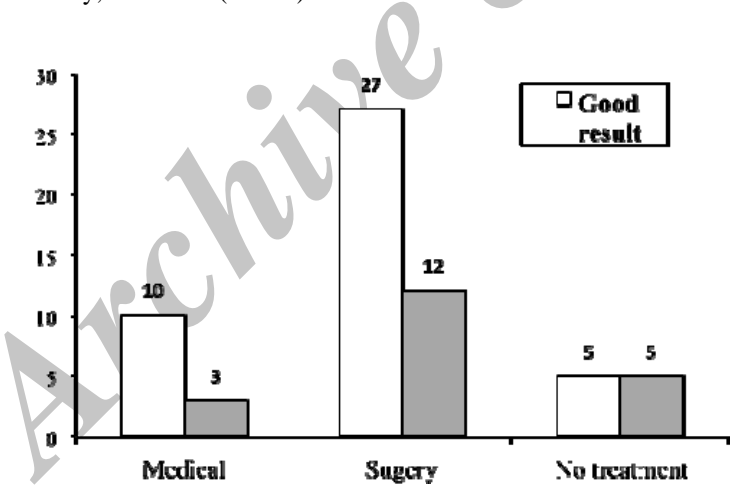


Figure 2. Comparison of therapeutic results in patients underwent medical treatment, surgery intervention and no treatment.

Table.2. Results of the surgical treatment of patients with and without finger defecation

Bowel habit	Results	Complete recovery		Partial recovery		No recovery		Total	
		No.	%	No.	%	No.	%	No.	%
Absent		17	50	13	38.2	4	11.8	34	100
Present		17	85	2	10	1	5	20	100
Total		34	63	15	28.8	5	9.3	54	100

P-value=0.03

## Discussion

In our non-randomized clinical trial, rectal bleeding and history of digitalization had the highest and the lowest frequency of symptoms and signs in our cases respectively. Abdominal rectopexy was performed in 39 cases and complete recovery response in our cases was 69.23%. Complete recovery rate in cases with dysplasia (63.8%) was significantly higher than cases without that ( $P=0.04$ ). Complete recovery rate in cases that had finger defecation (85%) was significantly higher than cases without that (50%) ( $P=0.03$ ).

Symptoms severity and rectal prolapse are two main factors that the selection of therapeutic modalities in SRUS patients is related to. Discussion about suitable treatment or efficacy of that for recovery of patients need to be a well designed and large sample size clinical trial, but we had little number of trials for choosing suitable treatment for SRUS patients. Several therapies from behavioral therapy to surgery were recommended in the literature for SRUS treatment. Patients' education and changes in their defecation behavior were the main topic in SRUS treatment. In some of patients biofeedback has been suggested for symptoms remission via altering autonomic nerve pathway to the gut (12).

In patients with conservative treatment resistant or full-thickness or severe mucosal prolapse, surgical treatment was done. Some studies suggested anti prolapse surgery including local excision of ulcer, rectopexy and perineal proctectomy (13-14). Halligan *et al.* in their studies reported that 94% of SRUS patients had complete remission of rectal prolapse after rectopexy (10).

Sitzler *et al.* in their study found that complete remission of anti prolapse surgery in long term was only around 55% to 60% of cases (11). In another study by Tjandra *et al.*, around 30% of SRUS patients had received recovery from surgery and complete remission of ulcer was seen only in 28% of cases with rectopexy and 33% after resection and rectopexy (5). They concluded that according postoperative defecography studies, rectopexy can successfully treat rectal prolapse in SRUS patients (10). In conclusion, SRUS is a chronic, benign disease and usually rectum is affected and often related to abnormal defecation. A variety of treatment modalities are presented. Some of them include topical medications, behavior modification supplemented by fiber and biofeedback and surgery were more available and studied. But it seems that education of SRUS patients and conservative treatments remain cornerstone in the SRUS management.

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## References

1. Madigan MR, Morson BC. Solitary ulcer of the rectum. *Gut* 1969;10(11):871-81.
2. Cruveilhier J. *Ulcere chronique du rectum*. Paris: JB Bailliere; 1829.
3. Alberti-Flor JJ, Halter S, Dunn GD. Solitary rectal ulcer as a cause of massive lower gastrointestinal bleeding. *Gastrointest Endosc* 1985;31(1):53-4.
4. Bishop PR, Nowicki MJ, Subramony C, Parker PH. Solitary rectal ulcer: a rare cause of gastrointestinal bleeding in an adolescent with hemophilia A. *J Clin Gastroenterol* 2001;33(1):72-6.
5. Tjandra JJ, Fazio VW, Church JM, Lavery IC, Oakley JR, Milsom JW. Clinical conundrum of solitary rectal ulcer. *Dis Colon Rectum* 1992;35(3):227-34.
6. Haray PN, Morris-Stiff GJ, Foster ME. Solitary rectal ulcer syndrome: an underdiagnosed condition. *Int J Colorectal Dis* 1997;12(5):313-5.
7. Kuijpers HC, Schreve RH, ten Cate Hoedemakers H. Diagnosis of functional disorders of defecation causing the solitary rectal ulcer syndrome. *Dis Colon Rectum* 1986;29(2):126-9.
8. Malouf AJ, Vaizey CJ, Kamm MA. Results of behavioral treatment (biofeedback) for solitary rectal ulcer syndrome. *Dis Colon Rectum* 2001;44(1):72-6.
9. Vaizey CJ, Roy AJ, Kamm MA. Prospective evaluation of the treatment of solitary rectal ulcer syndrome with biofeedback. *Gut* 1997;41(6):817-20.
10. Halligan S, Nicholls RJ, Bartram CI. Proctographic changes after rectopexy for solitary rectal ulcer syndrome and preoperative predictive factors for a successful outcome. *Br J Surg* 1995;82(3):314-7.
11. Sitzler PJ, Kamm MA, Nicholls RJ, McKee RF. Long-term clinical outcome of surgery for solitary rectal ulcer syndrome. *Br J Surg* 1998;85(9):1246-50.
12. Emmanuel AV, Kamm MA. Response to a behavioural treatment, biofeedback, in constipated patients is associated with improved gut transit and autonomic innervation. *Gut* 2001;49(2):214-9.
13. Marchal F, Bresler L, Brunaud L, Adler SC, Sebbag H, Tortuyaux JM, et al. Solitary rectal ulcer syndrome: a series of 13 patients operated with a mean follow-up of 4.5 years. *Int J Colorectal Dis* 2001;16(4):228-33.
14. Nicholls RJ, Simson JN. Anteroposterior rectopexy in the treatment of solitary rectal ulcer syndrome without overt rectal prolapse. *Br J Surg* 1986;73(3):222-4.