



Original Article

Comparison of pre and post-operative ODS (Obstructed Defecation Syndrome) score in patient with ODS undergoing Stapled Transanal Rectal Resection (STARR)

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Abstract

Background: There are a variety of surgical approaches for correction of ODS, most of these have high recurrence and complication rates. Stapled transanal rectal resection (STARR) was introduced in 2003 by Antonio Longo as a minimally invasive transanal operation for ODS associated with rectocele and or rectal intussusception.

Objective: This study was designed to assess the efficacy of Stapled Transanal Rectal Resection (STARR) as a surgical treatment of Obstructed Defecation Syndrome(ODS).

Methodology: This is a quasi experimental study that was carried out at Colorectal surgery unit of surgery department in Bangabandhu Sheikh Mujib Medical University. The sample size was 17. The admitted patient of Obstructed Defecation Syndrome with Rectocele and or Rectal intussusception was selected according to inclusion and exclusion criteria. The patient was evaluated by history, clinical examination, proctoscopy, colonoscopy and defecography. Preoperative Longo's ODS score was determined for each patient and it was compared with postoperative ODS score. Regular follow up was done for each patient at one, three and six months after each operation.

Results: Significant improvement of ODS score was observed in 82.35% patients. Only 02 (11.8%) patients didn't respond to STARR procedure and their postoperative score was 13-15 may be due to coexistence of pelvic floor dyssynergy. Postoperative defecatory urgency developed only in 02(11.76%) patients. No patient developed significant postoperative complication like hemorrhage or rectovaginal fistula.

Conclusion: STARR is a simple, less invasive and effective procedure for the treatment of ODS due to rectocele and/or rectal intussusception without major morbidity but pelvic floor dyssynergy should be excluded preoperatively because it's presence makes the surgical intervention fruitless.

Keywords: ODS(Obstructed Defecation Syndrom), STARR(Stapled Transanal Rectal Resection), Rectocele, Rectal Intussusception, Pevic floor dyssynergy.

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Introduction:

Obstructed defecation syndrome (ODS) is characterized by a spectrum of symptoms including difficult evacuation, excessive straining during defecation, sensation of incomplete evacuation, prolonged time to defecate, anal pain, and the use of external assistance to aid defecation. It has been estimated that approximately 20% of adult female population suffered from this syndrome¹. The etiology of ODS is likely to be multifactorial, resulting from the interaction between anatomic factors such as rectal intussusception, rectocele and functional factor like pelvic floor dyssynergy that influences the rectoanal evacuatory mechanism. However, the rectocele and rectal intussusception have been recognized as major pathomorphological determinants of ODS¹. The diagnosis of ODS is based on careful evaluation of patient's clinical history, a validated Longo's ODS Score, Defecography, 3D-Endoanal ultrasonography, Anorectal manometry, Balloon Expulsion Test and psychological evaluation of the patient⁶.

Conservative therapy considered the first line treatment of patients with ODS. Surgery should be reserved for patients with structural abnormalities (Rectocele, Rectal intussusception) who fail to respond to conservative treatment. Patients who do not respond to conservative treatment are usually multiparous females affected by a combination of intussusception and rectocele, in these patients the correction of rectocele with a vaginal or perineal levatorplasty is often ineffective³.

A variety of surgical approaches has been described in the literature for correction of ODS, most of these have high recurrence and complication rates. Stapled transanal rectal resection (STARR) was introduced in 2003 by Antonio Longo as a minimally invasive transanal operation for ODS associated with rectocele and intussusception².

Many publications demonstrated the safety and efficacy of this procedure for the treatment of ODS

and the published results reported symptomatic improvement among those patients. The objective of this study was to assess the efficacy of STARR as a surgical procedure for ODS with rectocele and or rectal intussusception.

Patient and Method:

This quasi experimental study was carried out in the Colorectal Surgery Unit, department of Surgery, Bangabandhu Sheikh Mujib Medical University, Dhaka from May 2015 to June 2017. A total number of 17 patients were included in this study. The admitted patient of Obstructed Defecation Syndrome with Rectal intussusception and or Rectocele with Longo's ODS score >12 was included in this study. The patient was evaluated by history, clinical examination, proctoscopy, colonoscopy and defecography. Preoperative Longo's ODS score was determined for each patient and it was compared with postoperative score. Regular follow up was done for each patient at one, three and six months. Before commencement of the study, the protocol was approved by the IRB of the university. Both verbal and written consent was taken after providing detail of the procedure. Every patient was assured about the confidentiality of information. Patients who did not give consent to participate in the study were assured of being given the same quality of care.

Results:

In this study Mean±SD of age was 41.47 ± 9.34 years, most of the patient, 16(94.1%) were female and only 01(5.9%) was male. Preoperative Mean ± SD, ODS score was 17.23 ± 0.56 and Postoperative Mean±SD ODS score at six month was 5.05 ± 2.96. Only 02 (11.8%) patients didn't respond to STARR procedure and their postoperative score was 13-15. Postoperative defecatory urgency developed only in 02(11.76%) patients. Mean operative time± SD and mean hospital stay± SD was 36.47 ± 7.01minutes and 2.17 ± 0.39 days respectively. No patient developed significant postoperative complication like hemorrhage or rectovaginal fistula.

Table-I. Longo's ODS score

Symptoms	Never	Rarely	Sometimes	Usually	Always
Excessive straining	0	1	2	3	4
Incomplete rectal evacuation	0	1	2	3	4
Use of enemas/laxative	0	1	2	3	4
Vaginal/perineal digital pressure	0	1	2	3	4
Constipation	0	1	2	3	4

Never: 0 (never); rarely: <1/month; Sometimes: <1/week, ≥1/month; Usually: <1/day, ≥1/week; Always: ≥1/day.

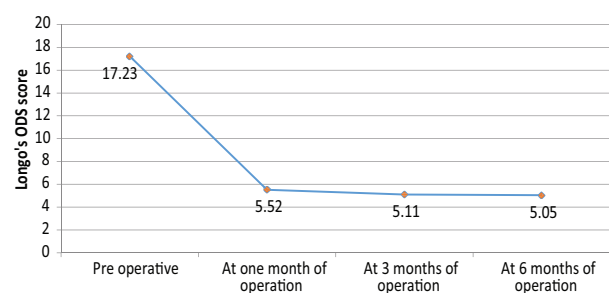
Table II. Distribution of patients according to pre & post operative (at different follow up) Longo's ODS score (n=17).

Longo's ODS score	Preoperative	Postoperative		
		At 01 month	At 03 month	At 06 months
1-6	0(0.0%)	14(82.35%)	14(82.35%)	14(82.35%)
7-12	0(0.0%)	1 (5.9%)	1 (5.9%)	1 (5.9%)
13-15	02(11.76%)	2 (11.76%)	2 (11.76%)	2 (11.76%)
16-20	15(88.23%)	0 (0.0%)	0 (0.0%)	0 (0.0%)

Table III. Comparison of Pre & Postoperative mean Longo's ODS score (n=17).

	Mean \pm SD	Range (min – max)
Pre-operative	17.23 \pm 0.56	16.00 - 18.00
At one month of operation	5.52 \pm 2.40	3.00 - 14.00
At 3 months of operation	5.11 \pm 2.44	3.00 - 14.00
At 6 months of operation	5.05 \pm 2.96	2.00 - 16.00
p value (Pre operative vs at 6 months of operation)	<0.001	

Pair 't' test was done to measure the level of significanc.

**Figure 1:** Line diagram of pre-operative and at different postoperative follow up Longo's ODS score.

Discussion:

In our study most of the patients (94.1%) were female and presentation was at earlier age than developed country¹. This may be due to the fact that the woman of our country get married, took first child and repeatedly pregnant at an earlier age than western country which causes damage to the innervation and soft tissues of the pelvis and rectovaginal septum which leads to development rectocele and ODS . More studies are required to evaluate the cause of early presentation in our country.

Near about 100% patients of this study had most of the component of ODS score either always ($e^{1/day}$),

usually($<1/day$) or sometimes($<1/week$). All patient carried high preoperative ODS score which was 16-20. Other studies also included patients with same preoperative ODS score².

Preoperative evaluation by DRE, proctoscopy and defecography revealed rectocele in 16(94.11%) and rectal intussusception in 15(88.2%) patients. It reflects the fact that most of the patients with ODS have anatomical abnormalities, other physiological factor like pelvic floor dyssynergy may coexist with it and it's evaluation was not possible due to unavailability of MR Defecography in our country⁶.

The only intraoperative incident was bleeding from the staple line which occurred in 06(35.29%) patients among them hemostatic suture was needed in 02(11.76%) patients. Bin Zhang et al 2010 found intraoperative staple line bleeding in 92% cases. No patient of our study developed postoperative hemorrhage. The current data documented 8% cases with mild bleeding from the staple line postoperatively. Both peroperative and postoperative staple line bleeding rate was much lower than other study this may be due to the fact that the patients of our study was earlier age and without comorbidity like IHD so they didn't take any anticoagulants which may predispose the patient hemorrhagic complication.

In our study postoperative defecatory urgency developed only in 02(11.76%) cases. Although the exact etiology of defecatory urgency is unclear, it may reflect the inflammatory response related to the staple line, presence of irritable rectum, and reduced rectal capacity or compliance. Accumulating evidences have shown that defecatory urgency was the most common complaint and it was about 42% in the immediate and intermediate recovery periods after STARR^{6,4,2}. The frequency of defecatory urgency is much lower in our study. This may be due to the fact that the people of our country are not so aware about their minor postoperative symptoms.

In our series postoperative ODS score reduced significantly in 14(82.35%) patients and it became 1-6. Mean Score \pm SD at six month 5.05 \pm 2.96. The postoperative ODS score remain static upto six month. It correlates with most of the series. Hesham M. et al 2012 reported a significant improvement of ODS score after 12 month of STARR procedure. Only 02 (11.8%) patients didn't respond to STARR procedure and their postoperative score was 13-15. This may be due to the fact that other than rectocele and rectal intussusceptions pelvic floor dyssynergy may be responsible for development of ODS. So before surgical intervention this factor should be excluded by proper evaluation by Dynamic MR defecography but this is not available in our country.

Conclusion:

STARR is a simple, less invasive and effective procedure for the treatment of ODS due to rectocele and/or rectal intussusception without major morbidity but pelvic floor dyssynergy should be excluded preoperatively because it's presence makes the surgical intervention fruitless.

Limitations of the Study: In our study we could not exclude pelvic floor dyssynergy due lack of dynamic MR defecography, our sample size was small and we followed up the patient for a short period of time (Six months only).

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