



Trans rectal rectocele repair vs standard posterior colporaphy in the treatment of obstructed defecation

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ABSTRACT

The aim of this work is to study the results and successes rate of trans rectal rectocele repair Vs standard posterior colporaphy in the treatment of obstructed defecation. Forty female patients with obstructed defecation due to rectocele scheduled for surgical repair were randomized to either trans rectal oblitative suture technique or trans vaginal Posterior Colporaphy repair in the period between October 2012 and October 2014. Mean operative time was significantly shorter in trans rectal group. As regarding to changes in bowel symptoms 12 months after surgery (constipation, incomplete evacuation) there was improvement in both groups. Postoperative dysparenia was significantly higher in trans vaginal group. The clinical outcome at one year in trans rectal group was excellent in 10 (50%) patients in contrast to in trans vaginal group. The transrectal technique has advantages over posterior colporraphy. It is bloodless, rapid, and remarkably easy to perform.

Keywords: Obstructed defecation, Rectocele, Dysparenia.

INTRODUCTION

Obstructed defecation is a broad term used to describe the condition of patients with defecatory dysfunction and constipation. The etiology of obstructed defecation syndrome (ODS) is likely to be multifactorial, resulting from the interaction of functional and anatomic factors that influence the rectoanal evacuatory mechanism (Schwandner et al., 2008).

Rectocele, rectal prolapse, rectal mucosal intussusceptions, solitary rectal ulcer syndrome (SRUS), anismus, enterocele and the descending perineum syndrome (DPS) constitute the most common structural pelvic floor disorders that affect defecation (Rao, 2010). Rectocele is a herniation of the rectum through the recto-vaginal fascia and posterior vaginal wall causing a protrusion into the vaginal lumen. It's a common disorder in women with history of multiple vaginal deliveries and in postmenopausal females, and results in constipation and obstructed defecation (NGÔ et al., 2011). Treatment options for women with symptomatic rectoceles include nonsurgical management with pessaries and a variety of surgical techniques, including standard posterior colporraphy, defect-directed repair, posterior fascial replacement, trans-anal repair, and abdominal approaches (Geoffrey et al., 2004).

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PATIENTS AND METHODS

Patients:

Forty female patients with obstructed defecation due to rectocele scheduled for surgical repair were randomized to either trans rectal obliterative suture technique or trans vaginal Posterior Colporaphy repair in the period between October 2012 and October 2014 at general surgery department of Menoufia University hospital in the period from October 2012 to October 2014.

Surgery was indicated in the following cases: failure of medical therapy carried out for three months with persistence of at least three specific symptoms of ODS (feeling of incomplete evacuation, prolonged painful straining, frequent calls to defecate, excessive toilet time, digital assistance, pelvic pain or pressure, rectal bleeding, soiling, or a feeling of prolapse); rectocele size ≥ 3 cm at defecography on straining; or entrapping of barium contrast after defecation. The presence of other concomitant anal diseases (hemorrhoids, fissure) was not a contraindication to the surgical repair of rectocele.

Methods:

All patients were divided randomly into two groups .Group 'I' had undergone trans rectal obliterative suture technique, while group 'II' had undergone trans vaginal Posterior Colporaphy and all patients had been followed at 6 weeks, 6 months, and 12 months after surgery.

The follow up was by clinical examination using Modified Longo Score for obstructed defecation syndrome table (1) to facilitate comparison between pre& postoperative results in both groups.

The clinical outcome was considered to be excellent when patients were symptom-free with normal evacuation; it was good when they had 1-2 episodes/month of obstructed defecation requiring laxatives, fair when they had evacuation only using laxatives and poor if there was no improvement in symptoms.

Table-1. Modified Longo Score for Obstructed Defecation Syndrome

Questions and response options	scores			
Medication to evacuate (enemas or suppositories)	0	1	2	3
Difficulties to evacuate	0	1	2	3
Digitation to evacuate	0	1	2	3
Return to toilet to evacuate	0	1	2	3
Feeling of incomplete evacuation	0	1	2	3
Straining to evacuate	0	1	2	3
Time needed to evacuate	0	1	2	3
Lifestyle Alteration	0	1	2	3

†Each point is scored according to frequency of the symptom. Questions 1-6: 0 = never, 1 = less than once weekly, 2 = 1–6 times weekly, 3 = every day; question 7: 0 = less than 5 min, 1 = 6 – 10 min, 2 = 11–20 min, 3 = more than 20 min; question 8: 0 = no alteration of lifestyle, 1 = mild alteration, 2 = moderate alteration, and 3 = significant alteration of lifestyle. The total score is in the range of 0 (best) to 24.

Operative technique:

Trans anal repair (obliterative suturing technique):

With the patient in the lithotomy position and after introduction of PPH retractors, obliterative suturing involving the mucosal, submucosal, and muscular layers was carried out in a running lockstitch fashion using 2-0 PDS II sutures that can approximate these layers. Suturing was commenced at the dentate line and was extended to the proximal rim of the rectocele with traction of the placed suture towards the surgeon. Digital examination of the vagina was performed at intervals in order to ensure that there was no penetration into the vagina.

Trans vaginal repair (Posterior colporrhaphy):

With the patient in the lithotomy position and after Allis clamps were placed on the inner labia minora/hymen remnants bilaterally, a triangular (or transverse) incision over the perineal body is made between the Allis clamps, and sharp and blunt dissection is then performed to separate the posterior vagina from the underlying recto-vaginal fascia. A midline incision along the length of the vagina to a site above the superior edge of the rectocele was done to enhance

Table-2: Operative data

Operative Data		Group I (n=20) Trans anal	Group I (n=20) Trans vaginal	p-value
Operative time (minutes)				
Min. – Max.		10.0 – 20.0	35.0 – 45.0	<0.001*
Mean ± SD		15.30 ± 3.59	40.70 ± 4.03	
Intra operative bleeding	mild	16 (80%)	4 (20%)	MCp <0.001*
	moderate	4 (20%)	4 (20%)	
	sever	0 (0%)	12 (60%)	

Table-3: Preoperative and postoperative changes in bowel function

Bowel function	Group I (n=20) Trans anal			Group II (n=20) Trans vaginal		
	preoperative	Post operative	p-value	preoperative	Post operative	p-value
Constipation	19 (95%)	8 (40%)	<0.001*	20 (100%)	9 (45%)	<0.001*
Incomplete evacuation	16 (80%)	9 (45%)	0.022*	17 (85%)	9 (45%)	0.008*
Digitation	13 (65%)	8 (40%)	0.113	18 (90%)	9 (45%)	0.002*
Straining during defecation	15 (75%)	8 (40%)	0.025*	15 (75%)	8 (40%)	0.025*

exposure and allow excision of redundant vaginal mucosa. The dissection is carried laterally to the lateral vaginal sulcus and medial margins of the puborectalis muscles. The recto-vaginal fascia with the underlying the levator ani muscles is then plicated with interrupted sutures of 2–0 polyglycolic acid while depressing the anterior rectal wall (photo 8). Excess vaginal mucosa is carefully trimmed and then reapproximated.

RESULTS

This study included forty females patients presented with obstructed defecation due to rectocele. The mean operative time for group I was 15.30 ± 3.59 minutes and was significantly shorter than that of group II (40.70 ± 4.03) minutes. The intraoperative bleeding in group I was significantly lower than that of group II (MCp <0.001) table (2).

The changes in bowel function 12 months after surgery as compared with the preoperative condition. The constipation, incomplete evacuation and straining during defecation was significantly improved in both groups table (3).

The need for digitation was slightly improved in group I (65% vs. 40% postoperatively, p = 0.113) with significant improvement in group II (90% vs. 45% postoperatively, p= 0.002) table (3).

As regard post-operative complications, the incidence of postoperative recto-vaginal fistula and postoperative recurrence was higher in trans vaginal group than in trans rectal group with no significant difference. Postoperative dysparenia was significantly higher in trans vaginal group than in trans rectal group (P ≤ 0.05) table (4).

The clinical outcome at one year in trans rectal group was significant satisfactory than in trans vaginal group table (5).

DISCUSSION

Rectocele refers to displacement of the anterior rectal wall and the posterior vaginal wall into the vagina. The pathogenesis of rectocele is not well known (Yamana et al., 2006). Open and closed procedures for rectocele repair have been proposed. The principles of open methods are: to resect superabundant layer of rectocele and

Table-4: Post-operative complications

Complications	Group I n=20	Group II n=20	FEP-value
1. Rectovaginal fistula	1 (5%)	3 (15%)	0.605
2. Dysparenia	0 (0%)	8 (40%)	0.003*
3. Rectocele	2 (10%)	5 (25%)	0.407
recurrence	0 (0%)	2 (10%)	0.487

Table-5: Clinical outcome at one year

Clinical outcome	Group 1 (n=20)	Group 2 (n=20)	χ^2	p
No complaints	15 (75%)	9(45%)	3.750	0.053
Obstructed defecation, 1–2 times per month	3 (15%)	5 (25%)	0.625	^{FE} p = 0.695
Evacuation only with laxatives	1(5%)	3 (15%)	1.111	^{FE} p = 0.605
Unchanged	1 (5%)	1 (5%)	0.0	^{FE} p = 1.000

anterior rectal wall prolapse: to restore solidity of the anterior rectal wall by means of submucosa and muscularis plication and by contemporary fibrosis induced from submucosa surgical trauma; a longitudinal plication by transverse suture of the rectal wall in the dissection area has been proposed by Khubchandani et al (1997) and Sullivan et al (1968). The most common closed technique for trans-anal rectocele repair (i.e., obliterative suture) has been proposed by Block et al (1986). The aim of this work was to study the results and successes rate of Trans rectal rectocele repair (obliterative suture) versus standard posterior colporaphy in the treatment of obstructed defecation.

The mean operative time for group I was 15.30 ± 3.59 minutes and was significantly shorter than that of group II (40.70 ± 4.03) minutes. Our results coincide with the study of Tsujinaka et al, (2007), Block (1986) and Nieminen et al, (2004).

The intraoperative bleeding in group I was significantly lower than that of group II (MCP <0.001). These is confirmed by Nieminen et al, (2004), who demonstrated that blood loss was statistically significantly greater ($P = 0.03$) in the group undergoing vaginal surgery than in the transanal group.

In our study improvement in the preoperative symptoms was reported in both groups with different grades of significance. The constipation was significantly improved in both group I (95% vs. 40% postoperatively, $p <0.001$) and group II (100 vs. 45% postoperatively, $p <0.001$). Incomplete evacuation was significantly reduced in both group I (80% vs. 45% postoperatively, $p = 0.022$), and group II (85% vs. 45% postoperatively, $p = 0.008$). The need for digitation was slightly improved in group I (65% vs. 40% postoperatively, $p = 0.113$) with significant improvement in group II (90% vs. 45% postoperatively, $p= 0.002$). Straining during defecation was significantly reduced in both group I (75 vs 40% postoperatively, $P=0.025$) and group II (75 vs 40% postoperatively, $P=0.025$). This was reported by Murthy et al, (1996), Heriot et al, (2004), Nieminen et al, (2004), Yamana et al, (2006), Tsujinaka et al, (2007), Leanza et al, (2013).

Although many Authors have reported satisfactory anatomic results after surgery, conflicting results on sexual function have been observed after transvaginal approaches. The major concern regarding the adverse effects of the vaginal approaches is dyspareunia and sexual dysfunction (Paraiso et al, 2001).

In our study dyspareunia was reported as a postoperative complaint in eight patients (40%)

of patients following posterior colporrhaphy, and this may be attributed to the use of levator muscle plication as part of the procedure. Our results coincide with the study of Kahn and Stanton, (1997), Paraiso et al, (2001), Tsujinaka et al, (2007), van Dam et al, (2000) and Walid Mohamed Abd-Elmoneim Omran (2015).

Therefore, it is crucial to perceive the status of sexual activity in patients undergoing rectocele repair. In our study dyspareunia was thoroughly informed before surgery for all patients.

The clinical outcome at one year in Trans rectal group was excellent in 15 (75%) patients, good in 3 (15%) patients, fair in one (5%) patient and poor in one (5%) patient while the clinical outcome at one year in Trans vaginal group was excellent in 9 (45%) patients, good in 5 (25%) patients, fair in three (15%) patients and poor in one (5%) patient.

CONCLUSION

The vaginal repair is subject to a number of serious complications: narrowing and shortening of the vagina as a result of excessive trimming of the vaginal mucosal flaps; infection and breakdown of the vaginal wound; sloughing of the vaginal flaps; residual, prolapsing rectal mucosa; frequent recurrence. The vaginal approach is indispensable however, when associated conditions, such as cystocele, high rectocele, enterocele, uterine procidentia, and obstetric injuries of the pelvic floor are present.

The obliterative suture technique, which uses the rectal submucosal and muscularis layers for repair, avoids most of the weakness of the vaginal and transrectal approaches. Compared with the vaginal approach, it is much easier to perform, removes the redundant rectal mucosa, gives a more solid repair, avoids the complication of infection and sloughing of the vaginal flaps, and avoids the possibility of vaginal stenosis and dyspareunia.

The trans-rectal obliterative suture technique has advantages over posterior colporrhaphy. It is

bloodless, rapid, and remarkably easy to perform. Treatment of associated anorectal pathology did not interfere with the rectocele repair, nor did the rectocele repair interfere with associated anorectal pathology.

Conflict of Interests

The authors declare that there is no conflict of interests regarding the publication of this paper.

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