EVALUATION OF LAPAROSCOPIC VENTRAL MESH RECTOPEXY IN RECTAL PROLAPSE



Dr. Ehab Abd EL Aziz Elsayed Lecturer of General and Colo Rectal Surgery Benha Faculty of Medicine □Full thickness Rectal prolapse may be overt which is defined as protrusion of the rectal wall through the anus or occult which is intussusception of the rectal wall.(*Jones OM*,2011)

□ Straight rectum, a lack of rectal fascial attachment to the sacrum, a redundant sigmoid colon, levator ani diastasis, an abnormally deep Douglas pouch, and a patulous anus may be considered either anatomical predisposing factors for the development of CRP or the result of prolapsing rectum (Lacima G,2008).

□ The treatment of CRP in adults is essentially surgical. Surgical management is aimed at restoring physiology by correcting the prolapse and improving continence and constipation with acceptable mortality and recurrence rates (Madiba TE,2005).

□ According to the approach used to repair the rectal prolapse, Surgical treatment can be divided into two categories; Abdominal procedures which are generally better for young fit patients and perineal procedures which are preferable for old frial patients

□ who are not fit for abdominal procedures with significant comorbidities. (*Brazzelli M*,2000)

□ Ventral mesh rectopexy has been found to be associated with lower incidence of new-onset and greater improvement in pre-existing constipation as compared to the procedures that include posterior rectal dissection. Three randomized trials have shown an improvement in constipation by avoiding lateral and posterior dissection . (Formijne ,2014).

PATIENTS AND METHOD



- \Box The current study was conducted at General Surgery Department, Benha University Hospital, after obtaining approval from the local ethical committee and after fully informed written consent signed by the patient. This study was carried out on 30 adult patients with rectal prolapse.
- All patients underwent clinical examination including collection of demographic data and past medical history and obstetric history for females.

□ All patients underwent laboratory and radiological workup for assuring the diagnosis and define other organ prolapse, and to assure inclusion criteria and fitness for surgery. Then, patients were prepared and underwent preoperative ano rectal manometry , defecating proctography and procto sigmoidoscopy.

INCLUSION CRITERIA:

- Age : 35-70 year.
- Patient with full thickness rectal prolapse (external, internal)
- Patient with history of constipation ,obstructed defecation syndrome and or fecal incontinence .

EXCLUSION CRITERIA:

- Old frial patient .
- Patients with contraindication for abdominal insufflation, or coagulopathy.
- Patients refusing consent for inclusion in study.

OPERATIVE PROCEDURE:

• Using the 4-port technique the camera is placed in the supra umbilical incision and two 5-mm trocars are placed in the left and right iliac fossae at the midclavicular lines. A 12-mm trocar is inserted in the suprapubic region just to the right of the midline. After pneumo peritoneum conduction up to 16 mmHg; patients were positioned in Trendelenburg position. The recto sigmoid junction was identified and retracted to the left.



Figure (1): Trocar placement during our procedure of Laparoscoic ventral mesh rectopexy.

THE UTERUS AND THE FALLOPIAN TUBES WERE SUTURED TEMPORARILY TO THE ANTERIOR ABDOMINAL WALL USING PROLENE SUTURE STRAIGHT CUTTIND NEEDLE SO AS TO OPEN THE DOUGLAS POUCH TO DISSECT THE RECTOVAGINAL SEPTUM FREELY WITHOUT INJURY TO PELVIC ORGANS .



Figure (2): Suturing the uterus and the fallopian tubes to the anterior abdominal wall to open the douglas pouch .

• The rectosigmoid junction was identified and retracted to the left. A "J shaped" peritoneal incision was given extending from the sacral promontory to the anterior peritoneal reflection distally, This spares Right hypogastric nerves (deeper) and the ureter (more lateral) and avoid mobilization of the mesorectum.



Figure (3). Peritoneal dissection begins at the sacral promontory

- The peritoneum posterior to the apex of the recto vaginal septum is retracted postero-cranially, and the vagina is retracted antero-caudally this result in opening of the recto- vaginal septum
- Apurely anterior rectal dissection is undertaken down to the pelvic floor ,and its distal extent is confirmed by digital rectal and vaginal examination.



Figure (4): Completion of Peritoneal dissection down to the douglas pouch .

• Astrip of polypropylene (6 cm x11cm) is introduced and sutured as distally as possible onto the anterior rectal wall with interrupted vicryle sutures .the posterior wall of the vagina is fixed with the same sutures to creat anew recto vaginal septum .



Figure (5) Suturing the mesh to the vault of the vagina and the anterior rectal wall .



Figure (5): Fixing of the mesh to the sacral promontory using tuckers .



Figure (6): After Fixing of the mesh to the sacral promontory using tuckers .



Figure (7): Closure of the peritoneal reflection after assurance of fixation and hemostasis.

• The patients discharged to home on the 3rd post operative day after complete stabilization and advised to take laxative for 6ws postoperative After discharge, all patients were reviewed in the outpatient clinic at 6 weeks and regularly thereafter, during which functional scores was assessed and systematic perineal examinations was performed(both vaginal and ano rectal examination to assess the anatomical recurrence . That was defined clinically as complaints of persisting or new symptoms with aresidual rectocele or the occurrence of a new anatomical prolapse(cystocele or rectocele) or both.

• Functional scores were also compared preoperatively and post operatively ,these included Wexner Constipation and VAIZEY incontenince score and Cleveland clinic constipation scores(CCC).



Table (1):Distribution of patients according to their age and sex .

Demographic data		
Age	Mean ±SD	44.8 ± 8.6
	Range	35 - 70
Sex	Male n (%)	8 (26.7)
	Female n (%)	22 (73.3)





Figure (8) Distribution of patients according to age and sex.

Table (2) Distribution of patients according to their history (complaint).

Complaints	Ν	%
Fecal incontinence	18	60
Perianal soiling	18	60
Mass protruding from the anus	18	60
Obstructed defecation	12	40
feeling of Urge to defecate	12	40
Straining on defecation	12	40
Assisted defecation	30	100.0
Rectal digitation	12	40
Sense of incomplete evacuation	30	100.0

Table (3):Distribution of patients according to operative time and blood loss.

		N	%
Operative time (min)	<180	9	30.0
	180	12	40.0
	>180	9	30.0
Operative blood loss (ml)	<100	6	20.0
	>100	9	30.0

Table (4): Distribution of patients according to post-operative pain, ambulation, oral intake and hospital stay.

		Ν	%	
Immediate PO VAS score	Mean ±SD	2.3 ± 1.1		
Time till first ambulation (hr.)	<6 h	9	30.0	
	6-12 h	9	30.0	
	>12h	12	40.0	
Time till 1st oral intake (hr.)	<12 h	9	30.0	
	12-24h	9	30.0	
	24-36h	12	40.0	
PO hospital stay (days)	2-3 days	12	40.0	
	4-6 days	9	30.0	
	>6 days	9	30.0	

Table (5) Distribution of patients according to their Vaizey incontinence score before and after operation up to 12 m follow up postoperative.

Pre Vaizey	score	6m Vaizey score		12m Vaize	ey score	
Mean	±SD	Mean	±SD	Mean	±SD	P value
17.8	2.8	10.9	1.6	4.1	2.5	<0.001

Figure (9):Distribution of patients according to their Vaizey incontinence score before and after operation up to 12 m follow up postoperative.



Table (6) Distribution of patients according to their Cleveland Clinic Constipation (CCC) score before and after operation up to 12 m follow up post-operative.

Pre CCC	Cscore	6m CCC score		12m CCC	Cscore	
Mean	$\pm SD$	Mean	$\pm SD$	Mean	$\pm SD$	P value
3.1	6.3	1.9	3.9	0.7	1.4	0.002

Figure (10): Distribution of patients according to their Cleveland Clinic Constipation (CCC) score constipation score before and after operation up to 12 m follow up postoperative.



Table (7) Distribution of patients according to their satisfaction as regard their operative results .

	Ν	%
Poor	3	10
Fair	5	16.6
Good	15	50
Excellent	7	23.3

Figure (11): Distribution of patients according to their satisfaction as regard their operative results .



The obtained results are also in line with that recently documented in the work done by **Chandra et al.** who reported that at a median follow-up of 22 months,Wexner constipation score improved significantly from 17 to 6 and FI severity index (FISI) score from 24 to 2 with no de novo constipation or FI during the follow-up and all patients expressed good satisfaction with the outcome of their treatment.

In this study no mesh related complication was detected . However recent evidence suggested that mesh-related complications are common for synthetic more than biological meshes; however, mesh-related erosions were found to be more commonly associated with synthetics, with the incidence reported to be 1.87% for synthetic mesh and 0.22%, for biological mesh (Balla A., 2017)

conclusion



FROM THE PRESENT STUDY WE MAY CONCLUDE THAT

During ventral mesh rectopexy, fixing the posterior vaginal fornix to the lower most part of mesh provides additional support to the pelvic floor. This suspends the middle compartment resulting in correction of the existing or impending genital prolapse. A posterior rectopexy, on the other hand just supports the posterior compartment. The distal fixation of the mesh on to the pelvic floor allows repair of large rectocoeles. It also results in a shallow, suspended pouch of Douglas, thus correcting associated enterocoele or sigmoidocoele automatically. Sparing of the rectal autonomic nerves appears to improve the outcome of surgery for constipation. Our findings indicate an excellent improvement in fecal incontinence scores in the follow-up.

Recommendation



From the obtained results we recommend that LVMR is a safe procedure for the management of CRP within reasonable operative time and minimal immediate PO morbidities. LVMR provided significant improvement of CRP-associated FI and constipation and its impact on patients QOL. LVMR is associated with low frequency of post operative recurrence throughout 12-m follow-up.

