ORIGINAL ARTICLE

Functional outcomes after Well's procedure for rectal prolapse

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Received:
23rd January 2015
Accepted:
17th September, 2015

Abstract

Objectives:To evaluate the functional outcome with respect to constipation, sexual dysfunction, neuroprexia and recurrence after Well's procedure for rectal prolapse.

Study design: Observational case series

Place and duration of study: The study was conducted in surgical unit I at ward III, JPMC, Karachi from January 2012 to 1st December 2014.

Methodology:40 patients between 16-20 years of age were included in study. Patients were evaluated with history and clinical examination and assessed by anesthetist for surgical fitness. Well's procedures was performed in all patients of rectal prolapse post operative complication like constipation, sexual dysfunction, urinary bladder diysfunction and reccurence of rectal prolapse was noted. Post operated follow up of all rectal prolapse patients were done for one year. SPSS version 17 was used to analyze the results.

Results:40 patients underwent Well's procedure for Rectal prolapse of which 28 were males and 12 were females. Mean age of presentation is 30+-3 years. Average hospital stay was 3 days and post-operative complications were observed in 10% of patients. 5%(2 patients) developed the constipation and another 5%(2 patients) developed the sexual dysfunction.

Conclusion: Well's procedure is commonly performed surgery for rectal prolapse is simple safe and effective and has less complication

Keyword: rectal prolapse, Well's procedure, recurrence, anal incontinence

Introduction:

Rectal prolapse, or procidentia, is a socially debilitating condition[1] and relatively uncommon clinical entity[2]. Rectal prolapse is described a condition in which entire layer of rectal wall prortude through anal canal. Rectal prolapse is classified into two types: complete or full-thickness prolapse and incomplete or partial thickness prolapse. Complete prolapse represents a protrusion of the entire layer of the rectum to the outside of the anus and, thus, shows concentric folds. Incomplete prolapse is defined as a condition in which the protruding rectal wall is limited to the inside of the anal canal, which is also referred to as occult rectal prolapse or internal rectal intussusception[3]. Historically, rectal prolapse was described on papyrus in 1500 BC but the etio-pathogenesis remains an enigma[4,5]. Anatomical factors include female sex, redundant rectosigmoid, deep pouch of Douglas, patulous anus (weak internal sphincter), diastasis of levator ani muscle (defects in pelvic floor), and lack of fixation of rectum to sacrum. Functional factors include poor bowel habits (chronic constipation), neurologic disease including congenital anomaly, cauda equina lesion, spinal cord injury, senility[6], pregnancy, perineal nerve injury, chronic constipation straining, neurologic and psychiatric disorders, and other conditions resulting in increased intra-abdominal pressure[7]. Rectal prolapse affects patients at extremes of age. It is more common in woman than men with a ratio of 6 to 1[8]. Peak incidents are after 5th decade. Although more than 100

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different procedures for the treatment of complete rectal prolapse were described in the 20th century[9], the procedures fall into two broad categories, according to whether the route of access is abdominal or perineal. Abdominal procedures (APs) generally offer lower rates of recurrence but are associated with higher morbidity rates than perennial procedures[9]. Our studies design to review the functional outcome after Well's procedure for rectal prolapse and to possibly help to determine whether this is an optimal surgical strategy for patients with rectal prolapse. The rational of study was there are more than 100 procedures for rectoexy but none is gold standard. So controversy still exist to establish the best procedure for recto pexy in term of complication so we decided to find out the functional outcome after Well's procedure.

Methodology:

Between January 2012 to December 2014, 40 patients underwent surgical intervention between 16-60 year of age for rectal prolapse at surgical unit 1, JPMC, Karachi after approval by ethical committee of Jinnah Postgraduate Medical Centre, Karachi. Patient presented with mass per rectum, bleeding per-rectum, constipation and fecal incontinence. Prolapse was easily identified on inspection of perineal region. A digital rectal examination is performed to assess the tone of the anal sphincter muscles. The abdomen is examined for any previous scars, masses, or hernias. Vaginal examination is performed to assess for other coexisting abnormalities such as a cystocele or an enterocele. A colonoscopy performed in all patients for complete assessment of the colonic mucosa and to exclude any lead point lesions as a cause for the prolapse. All patients undergone careful assessment of the patient's functional status and their fitness to undergo surgery including a cardiac and pulmonary assessment. Inclusion criteria are the patient diagnosed as rectal prolapse between age of 16-60 years with ASA grade I to III. Exclusion criteria were patients aged less than 16 years and greater than 60 years with ASA grade IV and patient with concomitant benign anal condition or recurrent disease. All patient underwent Well's procedure under general anesthesia in Lloyd's Davis position and Foley's catheters inserted. The operative steps comprises of lower midline incision followed by posterior rectal mobilization up to pelvic floor preserving ureter and nerves. Mesh placed in presacral space and anchored with sacral promontory encircling 3/4th of the circumference of rectum and fixed with sero muscular suture post operatively complications of surgery were assessed. Patients were assessed for functional outcome. Constipation, sexual dysfunction, neuropraxia, urinary bladdey dysfunction and reccurence of rectal proplase were evaluated on each post operative follow up. Post operative follow up was done on every week in OPD up to three months and then monthly upto one year to observe the complication like reccurance. SPSS version 17 was used to analyze the result.

Results:

40 patients were included in our study of which 28(70%) were male and 12(30%) were females. Male to female ratio was 7:3. Mean age for presentation was 30+-3 years. The average duration of hospital stay was 3 days. Out of 40 patients, 36(90.%) had smooth post-operative recovery. Two patient (5%) presented with constipation and another two patient (5%) presented with sexual dysfunction. None of patient presented with neuroprexia and recurrence up to 1 year follow-up.

Discussion:

Rectal prolapse is described as the disease of elderly females in western literature[10], but in our study there is predominance of male compared to females. The exact incidence of prolapse is not known[11-13]. This distribution is consistent with previous studies reported from India[14-16]. Well's procedure was done with no mortality and morbidity was 10% of which all were managed. All patients presented with mass per rectum bleeding PR and fecal incontinence were cured. Constipation improved in all patients except one female patient aged 35 years. Sexual dysfunction occurred in two patients aged 30 years and 35 years. General belief is that abdom-

Table 1: Comparision of previous studes of rectal prolapse and use of synthetic material in the above study and rate of recurrence and mortality.

Author	Year	Patients	Mesh	Recurrence	Mortality
				%	%
Penfold	1972	101	Ivalon	3.0	0
Morgan	1972	150	Ivalon	3.0	3.0
Keighley	1984	100	Polypropylene	0	0
Luukkonen	1992	15	Dexon	0	0
Novell	1994	31	Ivalon	3.0	0
Scaglia	1994	16	Polypropylene	0	0
Yakut	1998	48	Polypropylene	0	0
Aitolia	1999	96	Polypropylene	6.0	1.0
Mollen	2000	18	Teflon	0	NS

inal procedures have lower recurrence rates[16-19]. The recurrence rates abdominal procedures in various studies reported range between 0% to 12%[20]. The recurrence rate in study conducted by Penfold, Morgan and Aitola was 3, 3 and 6% respectively while in our study there was no recurrence in one year follow-up period.
In a study, retrograde ejaculation and impotence were seen in 17.2% of the patients after posterior recto-pexy[21] but in our study, it was 5% so this complication is less in our study which shows it is safe.

The management of rectal prolapse is surgical, over 100 different procedures have been described, the surgical repair can be an intra-abdominal or perineal procedure. The choice of procedure depends on the patient age and fitness of the patient for general anaestesia[22]. But the intra-abdominal approach is better due to lower reoccurrence rate but it has more morbidity however there is no consensus for the optimal approach that provide low reoccurrence rate, high rate of improvement in bowel function and low risk of bowel dysfunction. Minimally invasive laparoscopic recto-pexy have advantage of reduced post-operative pain, early returned of bowel function and shorten length of hospital stay. The disadvantage included longer operative time, required specialized surgical skill, costly equipment and high rate of intra-abdominal complication so minimal invasive surgery cannot be performed in all centres[23].

Robotic assisted rectopexy is also emerging but the disadvantage of robotic surgery includes high cost, long intra operative time and costly instrument so it is not affordable in every hospital of Pakistan.

Suture recto-pexy, ainterior recto-pexy mesh and sigmoid resection had a lot of complication like leakage and constipation so the Well's procedure was performed because it has less complication can be easily performed by junior surgeon. Mesh is placed posteriorly in this procedure so rectum can easily expand but in anterior recto-pexy the expansion of rectum is compromised so the constipation is more common in this procedure. In our setup most of the patients are poor they can't afford the cost of laparoscopic procedure and laparoscopic instrument are not available in most of the secondary health cares center Well's procedure is less cost effective and can be performed in secondary health care center even by junior surgeon so we decided to find out the functional outcome after Well's procedure. Its complication rate was very low. The surgical skill can be easily gained by junior surgeon and can be performed in peripheral hospital as well.

Mesh erosion after posterior recto pexy and fistula formation noted in literature but we did not find such complication in this study in one year follow up. The urinary bladder incontinency can occur due to injury of nerve supply to bladder but in this study these complications were not recorded. Well's procedure is better than repstein procedure because the mesh in well procedure is placed prosterily and it allows the rectum to expand anteriorly. The Repstien procedure increased constipation because it does not allow the expansion of rectum anteriorely andconstipation is also high in Repstein procedure when internal rectal intussception occurred. In this study constipation was present only in 5% of patients. These patient also showed well response to the medical treatment so the Well's procedure is less costly, can be easily performed and has a low complication rate as compared to laparoscopic approach. The surgical skill in Well's procedure can be easily gained.

Other complication like ureteric stenosis, recto-vaginal fistula and sigmoid fecloma were also noted in literature[24] but in this study did not find such complication. in this study the outcome of Well's repair was good. This may be due to the reason that most patient in this study belong to young age group. We excluded the children and elderly patient in study. The Well's recto-pexy was done by senior surgeons, mobilization of the rectum was carried out extremely carefully. The nerve plexuses to urinary bladder, ureter were carefully identified and saved and rectum was also carefully saved from iatrogenic injury. The Well's procedure is also less invasive as compared to the resection of sigmoid colon where anastomosis of gut delay the hospital stay and has a serious complication like leakage of the anastomosis which may prove life threatening. So Well's procedure was simple, safe and effective with minimal complication in this study.

Conclusion:

Hence it is concluded from our study that Well's procedure for rectal prolapse is simple, safe and effective procedure carried out under general anesthesia with shorter hospital stay, minimal-complication rate, no mortality, neuroprexia and recurrence. It shows that Well's procedure is an optimal surgical strategy for patients with rectal prolapse.

Role and contributions of authors:

Dr. Sughra Perveen, Professor in Ward-III, JPMC, design the study and wrote the initial methodology result, discussion and conclusion.
Dr. Mazher Iqbal, Assistant Professor, helped in collecting the data, tabulating and write-up of discussion and results.
Dr. Owais Sarwar, Ward-III, JPMC, also supervise the data collection and collection of the references and writing the final draft.

Conflict of Interst: none

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