Rectal prolapse and Alltemeier's procedure Jordan Hospital experience

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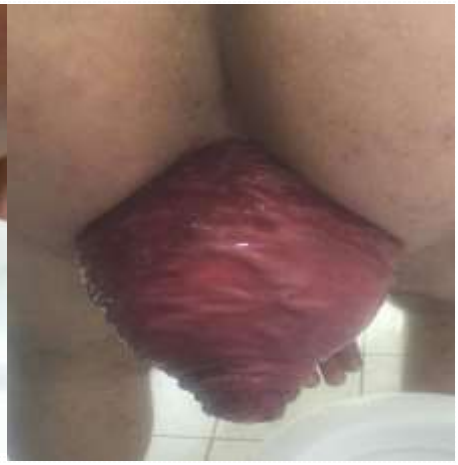


introduction

Overall, rectal prolapse affects relatively few people (2.5 cases/100,000 people).

It usually occurs in persons at the extremes of life.

By far, the most common group with prolapse , however, are those in the sixth decade of life and older.

Women over 50 years of age are six times as likely as men to develop rectal prolapse.

Most women with rectal prolapse are in their 60's, while the few men who develop prolapse are much younger, averaging 40 years of age or less.

In these younger patients, there is higher rate of autism, developmental delay, and psychiatric problems requiring multiple medications.

Etiology

The precise cause of rectal prolapse is not fully understood, but certain factors seems to be implicated in its development.

The predisposing and associated conditions include:

- **Constipation**, including evacuation disorder
- Patulous anus (weak internal sphincter)
- Pelvic floor defect (diseased levator ani)
- Neurological diseases (congenital anomalies, quada equina lesion, spinal cord injury....)
- Female gender
- Parity
- Lack of rectal fixation to the sacrum
- Deep pouch of Douglas
- Redundant rectosigmoid

Presentation

Rectal prolapse tends to present gradually. Initially, the prolapse comes down with a bowel movement (BM) and then returns to its normal position.

Patients may later describe a mass or "something falling out" that they may have to push back in following a BM.

Until the prolapsed rectum goes back in, patients may feel like they are "sitting on a ball".

Rectal prolapse may be confused with significant hemorrhoid disease.

Cont…

Fecal incontinence occurs in 50-75% of cases.

- The prolapsed rectum is bypassing the anal sphincter
- The anal sphincter is constantly stretched by the prolapse itself
- Pelvic nerve damage (pudendal nerve)

Cont…

Constipation *occurs in 25%-50% of patients.*

Bleeding *occurs in 30%-40% of patients.*

Some patients may have ***mucous soiling***.

urinary incontinence *in about 35% of patients.*

Rarely, the prolapse becomes ***"incarcerated"*** that may require emergent surgery.

EVALUATION

Before considering surgery, a careful history and physical examination should be done.

Attention should be focused on complaints of constipation, fecal incontinence, and any complaints of urinary incontinence or bulging into the vagina.

While a spontaneous prolapse is obvious, it can be confusing as to whether a patient has significant hemorrhoids or rectal prolapse. To demonstrate a rectal prolapse, the patient may be asked to strain while being observed while squatting, or on a toilet or commode.

Cont….

Direct examination of the anal region is important and often reveals low anal sphincter tone.

Formal ***anal manometry*** is recommended, as low sphincter pressures may affect the choice of procedure to repair the rectal prolapse, as well to assess the pudandal nerve latency.

A colonoscopy is necessary to rule out any associated polyps or cancer prior to consideration of treatment for rectal prolapse.

When the diagnosis remains in doubt, ***defecography*** may reveal the problem, and to diagnose the internal prolapse if external is not evident.

Treatment

The optimal treatment for rectal prolapse has been debated for decades.

Numerous abdominal and perineal procedures have been described in the literatures and the best repair is one that tailored to the individual patient.

Cont….

The choice of surgery type depends on both patient factors and procedural factors.

Patient factors include the patient's age, sex, bowel function, continence, prior operations, and severity of associated medical problems.

Procedural factors include extent of prolapse, what effect the procedure might have on bowel function and incontinence, complication rates of the procedure, recurrence rates of the procedure and the individual surgeon's experience.

Cont…

Most surgeons would agree that if a patient is medically fit for surgery, an abdominal approach may offer the best chance for a long-term successful repair of rectal prolapse.

Perineal approaches are often better choices for elderly patients or patients with very severe medical conditions in addition to rectal prolapse, as well for patients with incontinence because they allow the addition of levatoroplasty.

Consideration can also be given to a perineal approach in younger males, as there is a small chance (1-2%) of causing sexual dysfunction due to nerve injury during the pelvic dissection that occurs during an abdominal approach.

Cont…

Perineal approaches have traditionally been associated with higher recurrence rates(15%-20%), yet some of the more recently reported recurrence rates have been comparable to abdominal procedures(less than 10%). (1,2)

This improvement is most attributed to the addition of levatoroplasty as well as the difference in experience of surgeons doing the perineal procedures.

((recurrence rate is considered to be operator dependant))

Cont…

The surgeons at the Clevland Clinic Florida compared the results of perineal rectosigmoidectomy with and without anterior levatoroplasty (3).

For those without levatoroplasty, the recurrence rates were 20.6% compared to 7.7% for those with levatoroplasty.

In this study levatoroplasty increased the mean time to recurrence dramatically from 13.3 months to 45.5 months.

Cont…

More than 50 operations have been designed for the treatment of complete rectal prolapse.

Most of them are variations of few basic modes of therapy, and depend on the surgeon's concept of the anatomic defect.

The options include

- Narrowing of the anal orifice
- Obliteration of the peritoneum of Douglas pouch
- Restoration of pelvic floor
- Bowel resection(transabdominal, perineal or transsacral)
- Fixation of the rectum to the sacrum or pubis
- Combination of two or more of the options

ABDOMINAL APPROACHES

HISTORICAL PROCEDURES

- Repstien operation(Teflon or Marlex sling repair)
- Wells operation(Ivalon sponge implant)
- Moschcowitz procedure(suture obliteration of Douglas pouch)

CURRENTLY USED PROCEDURES

- Suture rectopexy
- Laparoscopic posterior rectopexy
- laparoscopic ventral rectopexy …the newest operation
- Robotic rectopexy
- Rectopexy with sigmoid resction

Perineal procedures

It is generally believed that the perineal approach results in fewer complications and pain, with a reduced length of hospital stay.

These advantages have, until recently, been considered to be offset by a higher recurrence rate. Recent data is unclear on this point, however, and a properly executed perineal operation may yield good long-term results.

The main two perineal procedures are Delorme's procedure and Altemeier's procedure.

MUCOSAL SLEEVE RESECTION ((Delorme's procedure

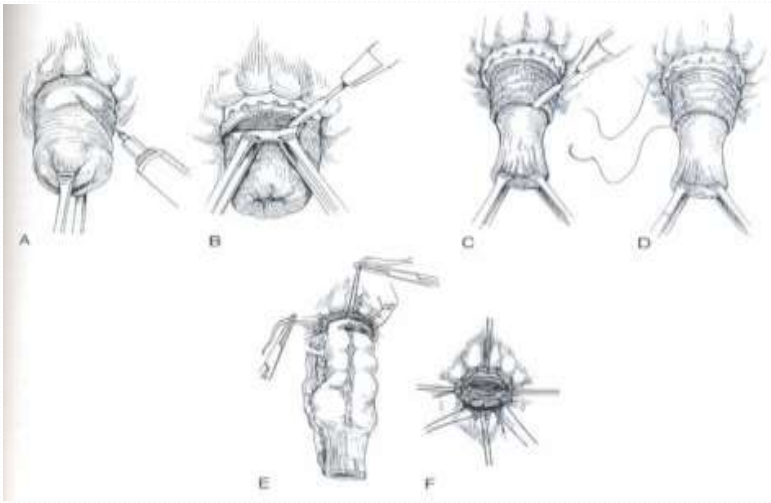
A circumferential incision is made through the mucosa of the prolapsed rectum near the dentate line.

The mucosa is stripped from the rectum to the apex of the prolapse and excised.

The denuded prolapsed muscle is then pleated with a suture and reefed up like an accordion, and the transected edges of the mucosa are sutured together.

This procedure is often used for small prolapses but may also be used for large ones.

Delorme's procedure



Altemeier's procedure

Lack of an abdominal incision, minimal pain, and a shorter hospital stay make this procedure an attractive option in appropriate patients.

Complication rates have been reported to range from 5-24%, and include bleeding or leak from the new connection and pelvic infection.

A levatoroplasty is done at the same time as the perineal rectosigmoidectomy and involves "tightening" up the pelvic floor muscles by sewing them closer together.

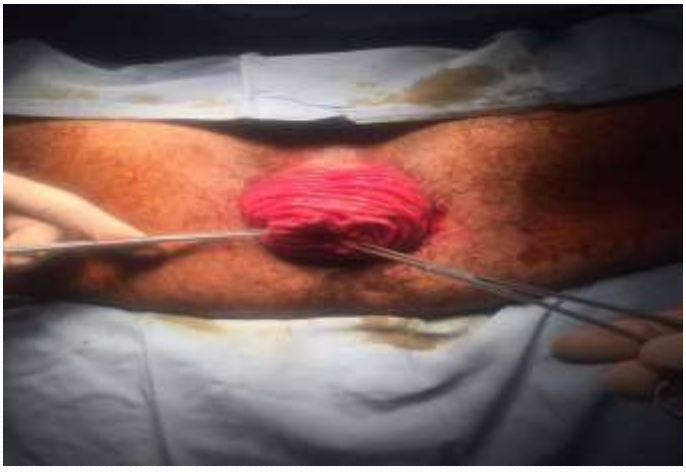
This seems to aid fecal continence in as many as two-thirds of patients and reduce the recurrence rate.

Cont…

Place patient in lithotomy position (or in prone jack knife position).

A folley catheter is inserted and is usually removed the day after surgery.

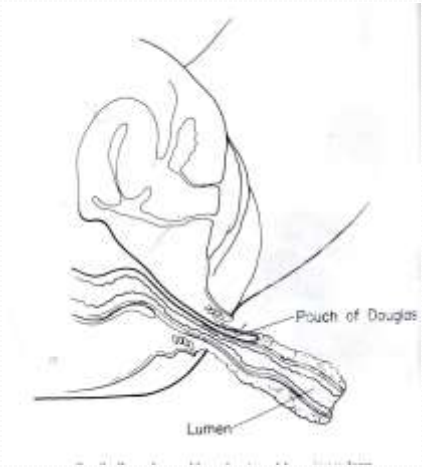
Prolapse should be delivered completely on to the perineum.



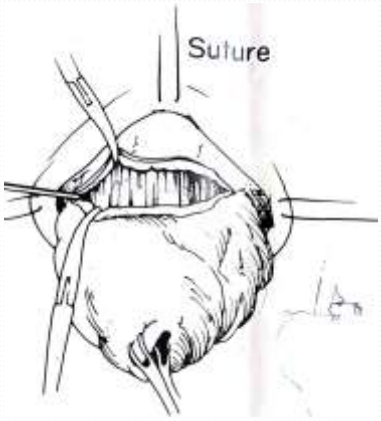
The following pictures are taken with permission from dr. Eftaiha(one of the authors) of the paper :

Rectal Procidentia in Elderly and Debilitated Patients
Diseases of the colon an rectum, June 1984
Vol. 27, No.6

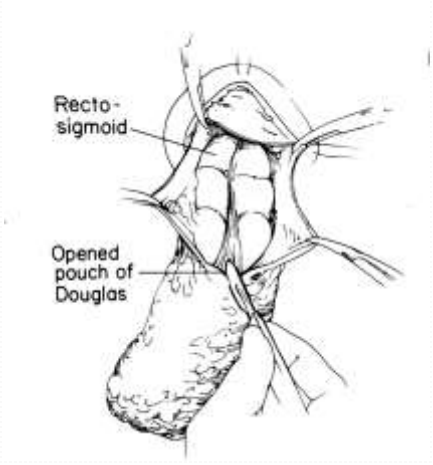
Outer layer of bowel stripped from inner loop(4)



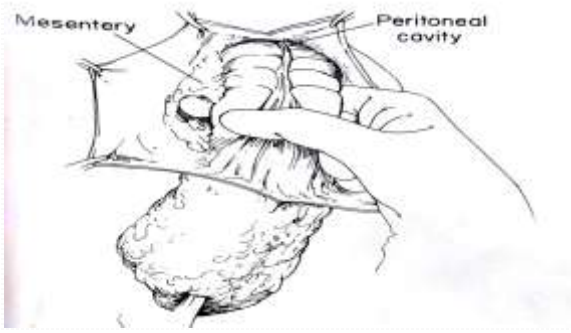
Incision made 2-3 cm proximal to the dentate line



Pouch identified and opened anteriorly

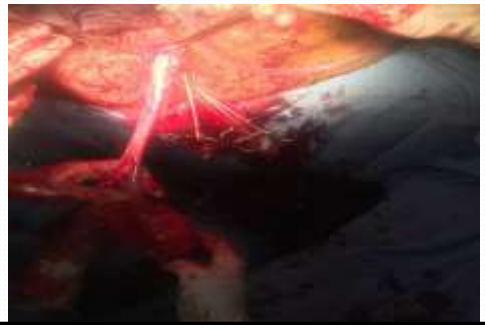


Rectosigmoid mesentery clamped and divided

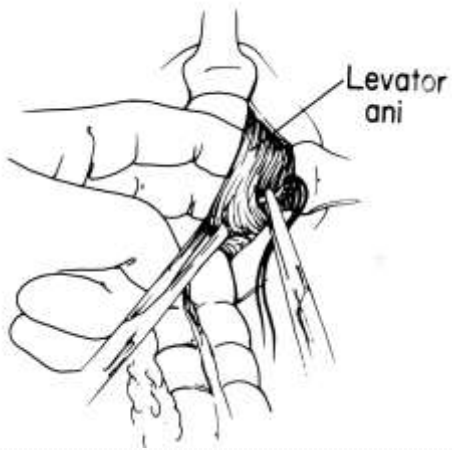


We should keep pulling till no more redundant prolpsed bowel comes out.

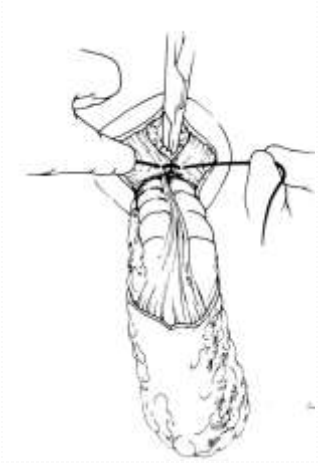
This explains why if redundant bowel left , the recurrence rate will increase.



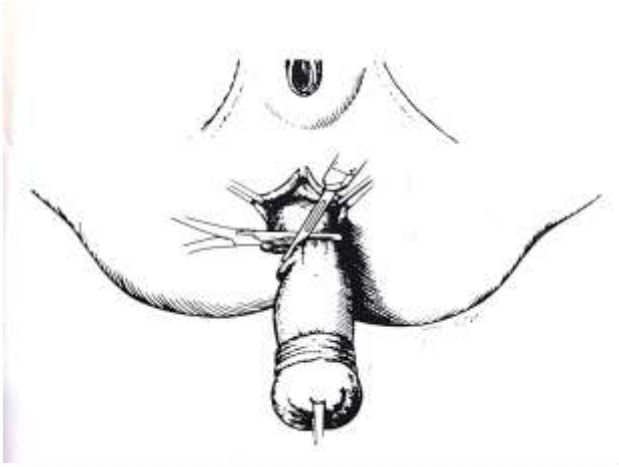
Levator ani sutured anteriorly



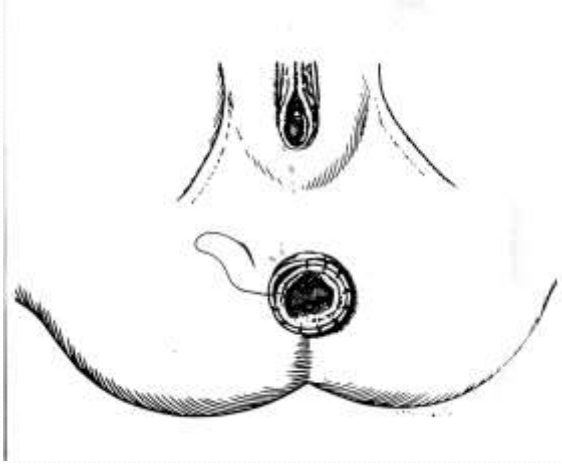
Anterior levatoroplasty



Sigmoid drawn down, clamped across and divided



Interrupted sutures of full thickness anastomosis



Jordan Hospital experience

We reviewed 11 patient diagnosed to have complete rectal prolapse and underwent Altemeier's procedure with levatoroplasty from (sep. 2007- feb. 2016).

9 patients were males(81.8 %).

2 patients were females (18.1%).

Age from (22 -45 years old) with mean age 33.5.

presentation

All patient presented with mass like protruded from the anus, that reduced back spontaneously in 4 of them and manually in the other 7 patients.

10/11 have chronic constipation.

7/11 have some degree of incontinence.

3/11 have fresh bleeding per rectum.

2/11 have mucose discharge.

One has anal pain.

One patient had a history of imperforated anus that was treated in childhood.

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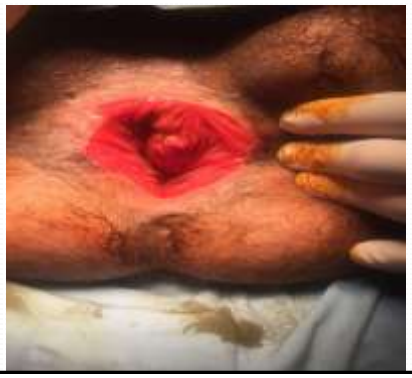

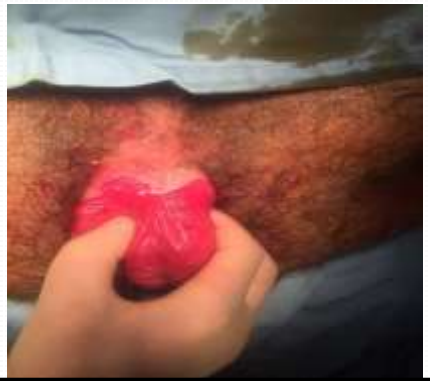

Cont….

All patients were operated under GA in lithotomy position.

The mean time of the operation was 65 minutes (range, 50-180 min).

The mean length of the resected segment was 12 cm(range, 10-26 cm).

The mean blood loss was 70 mL (range, 30-350 mL).

The mean time of hospital stay was 4 days.

Cont.....

There was no mortality.

Minimal morbidity - atelactasis, ileus, mild bleeding.

The mean of postoperative pain score was 3.

The final histopathology result was mild to moderate ischemia consistent with prolapse.

3 patients had the features of solitary recta ulcer syndrome(SRUS) with mild ischemia.

Cont...

Preoperative incontinence was improved in all patients.

Preoperative constipation was improved in 90% of patients

One patient developed recurrence and treated with redo Altemeier' procedure, then he did well, this patient was mentally retarded and had a colostomy, his recurrence was after closure of the colostomy.

Dis Colon Rectum. 2010 Dec;53(12):1618-23. doi: 10.1007/DCR.0b013e3181f22cef.

The Altemeier procedure for rectal prolapse: an operation for all ages.

Cirocco WC[1].

Author information

Abstract

PURPOSE:

Perineal rectosigmoidectomy was the most popular operation performed for rectal prolapse in the first half of the 20th century. However, high recurrence rates relegated it to a back-up role for elderly or other high-risk patients who were not candidates for an abdominal operation. Recent series (combined with levatorplasty = Altemeier procedure) revealed excellent results across a broader spectrum of patients and inspired this ongoing consecutive series of cases.

METHODS:

This is a review of 103 (99 women) consecutive patients (mean age, 68.9 y; range, 20-97 y) who underwent the Altemeier procedure between 2000 and 2009. Patients were placed in the prone jackknife position: 93 patients (90%) with the use of general anesthesia and 10 patients (10%) with the use of spinal anesthesia. The mean follow-up was 43 months (range, 3 mo to 10 y).

RESULTS:

The mean time for the operation was 97.7 minutes (range, 50-180 min) with a mean 7.2 cm of rectum resected (range, 2.5-26.7 cm). The mean blood loss was 66.9 mL (range, 0-350 mL). The mean time to tolerating a diet was 2.3 days (100% within 4 d) and mean postoperative length of hospital stay was 4.2 days (93% within 6 d). **There was no mortality, minimal morbidity (14%), and no recurrence**. Preoperative constipation (61% of patients) improved in 94% and preoperative fecal incontinence (47% of patients) improved in 85%, whereas 15% developed new onset of seepage or incontinence to flatus.

CONCLUSION

Numerous abdominal and perineal procedures have been described in the treatment of rectal prolapse but the best repair is one that tailored to the individual patient.

The Altemeier procedure provided excellent results across all age groups with minimal morbidity, allowing for short hospital stays and periods of convalescence.

Lack of an abdominal incision, minimal pain, and a shorter hospital stay make this procedure an attractive option in appropriate patients.

The improvement of the results in this procedure is most attributed to the addition of levatoroplasty (anterior, posterior or both)as well as the difference in experience of surgeons.

References

- 1. Senapti.A.,et al.,PROSPER: a randomised comparison of surgical treatments for rectal prolapse. Colorectal Dis, 2013. 15(7):P.858-68.
- 2. Formijne jonkers, H.A.,et al., Evaluation and surgical treatment of rectal prolapse: an international survey. Colorectal Dis, 2013.15(1):p.115-9
- 3.chun S,Pikarsky A, you S, et al .Dis colon rectum 2001,44:A5-A26
- 4. Rectal Procidentia in Elderly and Debilitated Patients, Diseases of the colon an rectum, June 1984 Vol. 27, No.6
- 5.Felt-Bersma RJ, Tiersma ES, Cuesta MA. Rectal prolapse, rectal intussusception, rectocele, solitary rectal ulcer syndrome, and enterocele. Gastroenterol Clin North Am 2008; 37:645.
- 6.Kairaluoma MV, Kellokumpu IH. Epidemiologic aspects of complete rectal prolapse. Scand J Surg 2005; 94:207.
- 7.Stein EA, Stein DE. Rectal procidentia: diagnosis and management. Gastrointest Endosc Clin N Am 2006; 16:189.
- 8.Tou S, Brown SR, Malik AI, Nelson RL. Surgery for complete rectal prolapse in adults. Cochrane Database Syst Rev 2008; :CD001758.
- 9.Portier G, Iovino F, Lazorthes F. Surgery for rectal prolapse: Orr-Loygue ventral rectopexy with limited dissection prevents postoperative-induced constipation without increasing recurrence. Dis Colon Rectum 2006; 49:1136.
- 10.Raftopoulos Y, Senagore AJ, Di Giuro G, et al. Recurrence rates after abdominal surgery for complete rectal prolapse: a multicenter pooled analysis of 643 individual patient data. Dis Colon Rectum 2005; 48:1200.
- 11.Karas JR, Uranues S, Altomare DF, et al. No rectopexy versus rectopexy following rectal mobilization for full-thickness rectal prolapse: a randomized controlled trial. Dis Colon Rectum 2011; 54:29.
- 12.Laubert T, Kleemann M, Schorcht A, et al. Laparoscopic resection rectopexy for rectal prolapse: a single-center study during 16 years. Surg Endosc 2010; 24:2401.
- 13.Johnson E, Stangeland A, Johannessen HO, Carlsen E. Resection rectopexy for external rectal prolapse reduces constipation and anal incontinence. Scand J Surg 2007; 96:56.
- 14.Luukkonen P, Mikkonen U, Järvinen H. Abdominal rectopexy with sigmoidectomy vs. rectopexy alone for rectal prolapse: a prospective, randomized study. Int J Colorectal Dis 1992; 7:219.
- 15.Hamel CT, Wexner SD. Rectal prolapse. In: Surgical treatment: Evidence-based and problem oriented., Holzheimer RG, Mannick JA. (Eds), Zuckshwerdt, 2001. PMID: 21028753.NBK6929.


Thank You