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Altemeier's Procedure, an Easy Solution for Rectal Prolapse

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Abstract

Introduction: ***Rectal prolapse is an embarrassing clinical condition. Most of the time patients get emergency hospital admission. Full thickness rectal prolapse demands surgical treatment. Many surgical procedures and techniques were described but none is adopted as standard. It is challenging to choose appropriate surgical procedure in the emergency situations as many patients come after trial of reduction and maltreatment. We have treated 64 patients of full thickness rectal prolapse by Altemeier's procedure in emergency admissions. This study was designed to observe the outcomes of Altemeier's procedure (perineal proctosigmoidectomy) in full thickness rectal prolapse as emergency surgery.***

Methods: ***This prospective study was done in Dhaka Medical College Hospital and Cumilla Medical College Hospital over the period of January 2013 to July 2018. Total 64 patients were included in this study. Alteimer's procedure was done in all patients. Patients were followed up on 2 weeks, 1 month, 3months, 6 months and 1 year. Patients were evaluated by complain of pain, per rectal bleeding, mucous discharge, bowel movement and incontinence. Postoperative data was collected and evaluated.***

Results: ***Reduction was achieved in all patients and they were satisfied about their prolapse correction. Two patients needed blood transfusion and laparotomy. Anastomotic disruption and bleeding from the mesenteric vessels were found on laparotomy. All patients had improved evacuation as assessed by history of satisfactory evacuation. No recurrence was reported during the follow up period. Gas and liquid incontinence were noted in 3 patients who improved with sphincter exercise within 3 months.***

Conclusion: ***In our series, we found Altemeier's procedure is safe, effective for complete rectal prolapse specially in emergency situation and can be done under regional anesthesia.***

Key words: Rectal prolapse, Altemeier's procedure

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Introduction

Protrusion of the rectum and nearby colon through the anus is known as rectal prolapse. It is common in elderly population but no age is exempted, with a 5 times higher incidence in females. It may be partial rectal prolapse that includes only mucosa as most often found in children, and complete or full thickness rectal prolapse. Rectal Prolapse is not always life-threatening but awkward for the patients and can significantly hampers quality of life. Patients often suffer from this condition for years without seeking medical consultations. Patients having an acute presentation or irreducible prolapse, are compelled to attend hospital. The aetiology is multifactorial and includes weakness of the pelvic floor, chronic constipation, multiple pregnancies, previous pelvic surgery and a deep pouch of Douglas. Prolapse of the rectum often associated with some form of functional disorder ranging from obstructive defecation syndrome (ODS), to fecal incontinence[1]. Historically, rectal prolapse was described on Papyrus in 1500 BC. Hippocrates described treatment for rectal prolapse: the patients could be treated by hanging them to a tree upside down, applying sodium hydroxide to the mucosa, and fixing for 3 days. In medieval times, other treatments were suggested; rectal prolapse could be prevented by using a scar obtained through burning the anus or by using a stick. In the 20th century, rectal prolapse was studied scientifically[2]. The mainstay of treatment is surgery, the only hope of cure. Different surgical techniques are described, both abdominal and perineal, but no one is considered as the gold standard. Fixation of the rectum to the sacrum using mesh and suture is the principle of all abdominal procedures. This

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induces fibrosis and adhesion. Few procedures comprise resection of a portion of the rectum and sigmoid colon with suture fixation. Delorme's operation is a widely practicing technique in UK that involves stripping of the mucosa and plication of the muscle layers of the prolapse portion, while perineal proctosigmoidectomy (Altemeier's operation) is more widely performed procedure in USA, where entire portion of the adjoining rectum and colon is resected and hand sewn coloanal anastomosis is done[3]. Minimal invasive surgery gained popularity having benefits of less hospital stay, pain, bleeding, early recovery and less morbidity but requiring technical skill and cost[4]. Patients frequently complain about persisting symptoms and recurrence despite anatomical correction by surgery. In our study, we have observed the outcomes of Altemeier's procedure among patients with complete rectal prolapse to determine the rates of early morbidity and mortality, the long-term functions and recurrences.

Methods

Materials: 64 patients were included in this study. All patients admitted with complete rectal prolapse over the period of January 2013 to July 2018, were included in this study. Patients below age of 18 years and partial rectal prolapse were excluded from the study. Follow up schedule was structured on 2 weeks, 1 month, 3months, 6 months and 1 year. Telephone interrogation was used as a medium of communication with some patients who did not come in time for follow up. Pain was assessed by visual analogue scale for pain. Evacuation of bowel, per rectal bleeding, any form of incontinence and recurrence of prolapse were interrogated.

Methods: Diagnosis was made on the basis of history and clinical examination. Special emphasis was given on digital rectal examination to assess anal sphincter tone and any pathology in rectum. Spinal anaesthesia was given to all patients. Lithotomy position with slight head down of the operating table was used. A vertical incision was made anteriorly in the rectum 2cm beyond the dentate line. After opening the first tube careful reduction of small gut if any, was ensured. Pulling the inner part (colon), a circumferential incision made in it. Serial suturing of the anal canal (Outer tube) with the colon was done until the whole circumference is covered using no1/0 vicryl suture. The mesorectum and blood vessel ligated separately as it is reached. Laxative was prescribed for 2 weeks once oral feeding started.

Results

We have evaluated 64 patients after performing Altemeier's procedure for complete rectal prolapse done as an emergency procedure. Of them38 patients were male and 26 patients were female. Lowest age was 22 and highest 75 years old with mean age 48.5 years. 52 (81.25%) patients had history of past episode. 28 (43.75%) patients gave history of constipation. All patients were operated under spinal anaesthesia in lithotomy position and mean operating time was 2 hours. Reduction was achieved in all patients at operation and they were satisfied about their prolapse correction in postoperative period immediately. Postoperative per rectal bleeding was observed in 6 patients. Among them 4 patients were treated conservatively. Two patients needed blood transfusion and laparotomy. Laparotomy findings were anastomotic disruption and bleeding from the mesenteric vessels. A temporary stoma was fashioned followed by coloanal anastomosis later on. Gas and liquid incontinence was observed in 3 patients who improved in 3 months by sphincter exercise. All patients had improved evacuation. Anal hypotonia was noted in 28patients (43.75%) on digital rectal examinations done at 2nd week follow up and onwards. 18 patients needed laxative for satisfactory evacuation throughout the follow up. 8 patients developed urinary retention in immediate postoperative period who were managed by analgesic, encouraging to void and if necessary urethral catheterization. No recurrence was noted during the follow up time. All patients were discharged from hospital by 3-5 days except 2, who needed laparotomy. Per operative blood transfusion (2 units) was done in 4 patients.

Table-I

Presentations: n=64	
History of constipation	28
History of past episode	52
Prolapse	64
Mucous discharge	64
Bleeding	30

Table -II

Patients' demography: n=64

Age group	Age (years)	Number	Percentage %
	20-39	8	12.5
	40-59	24	37.5
	60-80+	32	50
Gender	Male	38	59.37
	Female	26	40.62

Table-III

Postoperative complications: n=64

Complications	Number (%)	Conservative	Operative
P/R bleeding	6 (9.37)	4	2
Anastomotic disruption	2 (2.12)	0	2
Fecal incontinence	3 (4.68)	3	
Retention of urine	8 (12.5)	8	
Need for laxatives	18 (28.12)	-	-
Recurrence	0 (0)	-	-
Anal hypotonia	28 (43.75)	28	0
Mortality	0 (0)	-	-

Discussion

Complete rectal prolapse is more common in women particularly postmenopausal or multiparous women. In our study, it was 1.5 times more in male patient. This may be due to social and religious factors in the context of Bangladesh. Different authors opined for different procedures without coming to a clear consensus. Choice of the procedure depends on the type of patients, technical expertise of the surgeons, age and sex of patients, cost and availability of the facility[5]. Sometimes patients present with serious complications such as incarceration with or without strangulation[6]. Several patients came to us after several attempts of forceful reduction and applications of corrosive which made the surgery difficult. The better choice is therefore excision that is perineal proctosigmoidectomy[7]. Fourfold increased risk of developing colorectal cancer was reported however no causal effect was found[6]. A complete evaluation by colonoscopy, rectal manometry and defaecating proctography were not possible as these patients were admitted an emergency basis with irreducible prolapse.

This technique was first described by Mikulicz in 1889 and later by Miles in 1933 and Altemeier et al. in 1971. Excision of the rectum and adjoining sigmoid colon is done. However, Altemeier and Cuberstson in 1971, made this technique popular with a lower recurrence rate (10%). Reported overall rate of mortality is 0-5% [6,8]. In our series the mortality (0%) and rate of recurrence (0%) is similar to the reported series. Perineal approach is the choice for the treatment for incarcerated rectal prolapse and in young men, to avoid the risk of erectile dysfunction and constipation as a consequence pelvic dissection[9,10]. Thandinkosi et al. described the immediate postoperative complications after Alteimer's procedure, is less than other procedures having minimal pain, less bleeding, rate of incontinence, recurrence and mortality: which corresponds to our study[8]. Oral feeding can be started after 24 to 48 hours postoperatively. Seung-Hyun Lee et al. have shown in their comparative study between laparoscopic rectopexy and perineal proctosigmoidectomy for complete rectal prolapse that there is no difference in postoperative outcome.

Generally Altemeier's procedures for complete rectal prolapse have been considered a safer procedure than the open abdominal procedures in elderly or debilitated patients[11].Most of the patients were referred to our hospital from local medical facility and hence came to our hospital after several hours. The mucosa was found swollen edematous, ulcerated and sometimes patches of necrosis. In case of irreducible prolapse with signs of ischemia, the technique of choice remains the Altemeier's procedure and the results are satisfactory[12]. Abdelhanmid et al. concluded their study by recommending Altemeier's procedure, the preferred technique for incarcerated prolapse and high-risk patients with comorbidities in whom general anesthesia is contraindicated[13]. Rectal prolapse is often associated with bladder symptoms and vaginal vault prolapse, so rarely an isolated problem; hence it's management requires a multidisciplinary approach[14]. Posterior mobilization of rectum predisposes the patient to constipation due to pelvic nerve damage so resection may be an option[15]. Altemeier's procedure involves resection of the rectum and adjoining colon which minimizes the adverse effect of posterior dissection of rectum. Limitations of this study was lack of comparison with laparoscopic or open abdominal procedures and lack of long term follow up.

Conclusion

Altemeier's procedure is a safe and effective technique for complete rectal prolapse. It can be safely done under regional anesthesia in high-risk patients. Perineal proctosigmoidectomy is the procedure of choice for patients presented with maltreated, incarcerated or strangulated complete rectal prolapse. The adverse effect of pelvic dissection in open or laparoscopic surgery can also be avoided.

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