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#### Original research

# Long-term outcome of perineal rectosigmoidectomy for rectal prolapse



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#### HIGHLIGHTS

- Rectal prolapse is common among the elderly patients with comorbidities, making complex surgeries impossible to perform.
- In this study, Altemeier procedure presented low morbidity and no mortality.
- It was associated with significant recurrence rates in the late follow-up.

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#### ABSTRACT

*Introduction:* Rectal prolapse is a disabling condition that often affects older patients with multiple comorbidities making complex surgeries impossible to perform.

*Methods*: A retrospective review of patients who underwent perineal rectosigmoidectomy (Altemeier procedure) for rectal prolapse from January 1999 to March 2015 was performed in a Reference Hospital, being evaluated complications and surgery recurrence.

Results: Thirty-six Altemeier procedures were performed in 33 patients during the study. Twenty-five (76.8%) were women and the mean age was 67 (range 31–91) years. The mean duration of rectal prolapse symptoms was 7.8 years; other complaints were: pain, bleeding, mucus discharge, constipation and fecal incontinence. The mean operative time was 134.8 min and the blood loss was little. The mean postoperative length of hospital stay was 3.9 days. There was no mortality. Early postoperative complications occurred in 3 (9.1%).

Patients: an acute pulmonary edema, an urinary infection and a surgical site infection with partial anastomotic leak. This patient developed anastomotic stenosis requiring dilatation. The recurrence rate was 26.7% (8 patients), with a mean follow-up of 50 months, and three of them were treated with repeat Altemeier repair. Many patients complain of some degree of fecal incontinence, but all reported improvement in their quality of life after surgery.

*Conclusion:* The Altemeier procedure showed low morbidity but it was associated with significant recurrence rate. The same procedure can be repeated in case of recurrence with satisfactory results.

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#### 1. Introduction

Rectal prolapse is a socially debilitating condition being characterized by protrusion of all layers of the rectum through the anus

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[1–6]. It is associated with progressive loss of pelvic floor structures function (muscles and ligaments), involving morphological and functional changes in it and also of intra-abdominal structures, being its etiology not well defined [1–3,7–11].

It is a condition which affects all age groups, however, it is more frequent among the elderly who have comorbidities, usually multiple and severe [2,7,10,12–15]. The prevalence is estimated at 1% in adults with 65 years-old or more<sup>7</sup>. Other risk factors include

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multiparous, obesity, chronic constipation, perianal injury, as well as patients with psychiatric and connective tissue disorders [2,10,11].

Although the rectal prolapse can be reduced in most cases, surgery is the definitive treatment, with the restoration and maintenance of continence, avoiding recurrence and morbidity [16]. More than 100 operations to repair rectal prolapse have been described, divided into abdominal and perineal approach. Among this, there is the perineal rectosigmoidectomy whose initial description is attributed to Auffret (1882), with subsequent publication of a series of 6 cases by Mikulicz (1889). However, the surgery was popularized in the 1970s by Altemeier [16–22] who associated anterior levatorplasty with the procedure. Despite all the described surgical techniques, recurrence rates are up to 20% [18,23].

The purpose of this article is to describe the 17 years experience of Altemeier procedure in a Reference Unit, emphasising its complications and recurrence rates.

#### 2. Patients and methods

The medical records of 33 patients operated between January 1999 to March 2015, by Colorectal Surgery Unit of the School of Medical Sciences, University of Campinas (UNICAMP) were analyzed. The study was approved by ethics committee of FCM-UNICAMP ( $N^{\circ}$  50865215.8.0000.5404).

Preoperative data included age, gender, the duration of prolapse before surgery, associated comorbidities and previous surgery for prolapse. All patients had mechanical bowel preparation and prophylactic antibiotic therapy. Colonoscopy was performed in all patients. Operative data were type of anesthesia, ASA (American Society of Anestesiology) classification, operative time, estimated blood loss, length of hospital stay, intraoperative and postoperative complications, duration of follow-up and recurrence rates. Data were included in Microsoft Excel® and carried out a descriptive analysis of the results and compared with the literature data.

The surgery was performed under regional anesthesia (spinal, continuous epidural) or general anesthesia, according to the anesthesiologist's indication. The patient was placed in the lithotomy position and then performed perineal rectosigmoidectomy as described by Altemeier. Anastomoses were performed manually, in a single layer, with polygalactin 2.0 and located 1.5 cm above the dentate line. (Fig. 1).

There was no change of the technique throughout the years. The same manual suture has been performed; mechanical stapling was not used. Besides, the medical staff has been the same during all the study.

#### 3. Results

Thirty-six perineal rectosigmoidectomies were performed on 33

patients during the study period. Among them, 3 had undergone previous repair of prolapse by Altemeier procedure, 2 had previous retopexy and other 2, mucosal prolapse repair in our Unit. Furthermore, 5 patients were operated previously of rectal prolapse with perineal approach in other centers. Therefore, 12 (36.4%) patients had recurrent prolapse.

Twenty-five (76.8%) were women, with a mean age of 67 (31–91) years. Prior to surgery, 8 (26.6%) patients showed constipation and 12 (36.4%) fecal incontinence. Other symptoms were: pain, bleeding and discharge of mucus. The mean duration of complaints was 7.8 years and the majority of patients had comorbidities (Table 1).

There were no intraoperative complications and neither mortality. The mean hospital stay was 3.9 (2-18) days. We did not have access to anesthetic record of 3 patients. The data related to the surgery are shown in Table 2.

Early postoperative complications were observed in 3 (9.1%) patients: a patient with acute pulmonary edema, another with urinary infection and the third with surgical site infection with partial anastomosis leak. The last patient developed anastomotic stenosis requiring dilatation.

In the follow-up, 14 (42%) patients presented fecal some degree of incontinence and 3 (11%) urgency, however all reported significant improvement in quality of life. Prolapse recurrence was found in 8 (26.7%) patients, with a mean follow-up of 50 months. Three of them were re-operated with the same technique, and one presented small mucosal prolapse.

#### 4. Discussion

Rectal prolapse often occurs in extremes of age, and regard patients older than 65, it is more common in females. Rectal

**Table 1**Preoperative data.

Mean age (years)	67 (31-91)
Sex	
Male	8 (24.2%)
Female	25 (76.8%)
Duration of symptoms (years)	7.8
History of constipation	8 (24.2%)
History of incontinence	12 (36.4%)
Comorbidities	
Hypertension	20 (62.5%)
Cardiac	3 (9.4%)
Pulmonary	3 (9.4%)
Neurological	2 (6.2%)
Endocrine	7 (21.9%)
Kidney	2 (6.2%)
Psychiatric	7 (21.9%)
Others	6 (18.8%)
Previous surgery for prolapse	12 (36.4%)
Abdominal approach	02 (6.2%)
Perineal approach	10 (30.2%)

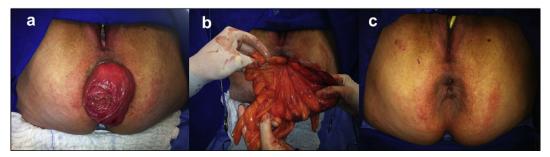


Fig. 1. a) Rectal prolapse; b) Surgical procedure; c) Final aspect.

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