

Altemeier procedure for strangulated rectal prolapse: A case report

EL WASSI Anas, JAMALEDDINE Khalid, BAZOUN Abderrahim, HAJRI Amal, ERGUIBI Driss,
BOUFETTAL Rachid, JAI RIFKI Saad and CHEHAB Farid

Department of general surgery, IBN ROCHD University hospital of Casablanca, Casablanca, Morocco

*Correspondence: JAMALEDDINE Khalid

Received: 26 April 2024; Accepted: 30 April 2024; Published: 10 May 2024

Citation: ELWASSI Anas. Altemeier procedure for strangulated rectal prolapse: A case report. AJMCRR 2024; 3(5): 1-4.

ABSTRACT

Rectal prolapse (RP), a condition characterized by the externalization of the rectal wall through the anus, presents challenges in management, particularly when complicated by incarceration or strangulation. We report a case of a 56-year-old woman diagnosed with acute myeloid leukemia undergoing chemotherapy, who presented with a painful protruding mass through the anal canal. Despite the contraindication for abdominal surgery due to ongoing chemotherapy, the patient required emergency intervention for a strangulated RP. The Altemeier procedure was performed, employing a modified technique using linear staplers, which proved effective in achieving mechanical anastomosis and minimizing intraoperative blood loss. The patient experienced successful resolution of symptoms with conservative management postoperatively, highlighting the importance of individualized treatment approaches in complex medical scenarios. This case underscores the significance of surgical intervention, particularly the Altemeier procedure, in managing challenging cases of RP, offering favorable outcomes for patients, even in the presence of contraindications for abdominal surgery.

Key Words: Rectal prolapse, Strangled Rectal prolapse, Altemeier procedure.

INTRODUCTION

A strangulated rectal prolapse (RP), also referred to as incarcerated rectal prolapse, occurs when the RP cannot be manually repositioned [1]. Unlike a reducible prolapse that can be pushed back into the body, an irreducible prolapse remains protruded and necessitates medical intervention for resolution [2]. Several factors, including the size of the prolapse, the presence of adhesions or scar tissue, or a twist or kink in the prolapsed rectum, can contribute to this condition. The management of irreduci-

ble RP is a subject of debate [3]. The preferred intervention in this scenario is the Altemeier procedure.

PRESENTATION OF CASE

We present a case involving a 56-year-old woman, diagnosed with acute myeloid leukemia and currently undergoing chemotherapy, who presented to the Emergency Department with complaints of a painful protruding mass through the anal canal.

The patient reported experiencing the sudden onset of this mass approximately six hours before seeking medical attention. She had a history of constipation and had previously managed several episodes of rectal prolapse on her own.

Physical examination revealed a strangulated rectal prolapse with edema and mucosal ulcerations measuring 15 cm in length and 7 cm in width (figure 1). Despite attempts at external manual reduction and the application of saccharose, necrosis developed, prompting the decision to pursue emergency surgery. However, due to the patient's ongoing chemotherapy treatment and the associated risk of complications from abdominal surgery, a conservative management approach was adopted.



Figure 1: Preoperative image

Altemeir emergency procedure was performed with normal results from biological data. During the operation, the rectum was carefully transected 1.5 cm above the dentate line to ensure meticulous hemostasis. Mesorectal vessels were ligated and divided using an energy device. Subsequently, the rectal wall and mesorectum were entirely divided. The colon was disinvaginated and transected, with

approximately 20 cm of the sigmoid colon resected. Finally, a hand-sewn colo-anal anastomosis was performed using interrupted sutures (figure 2).



Figure 2: Postoperative image after Altemeir procedure

The patient was closely monitored, and supportive measures, including analgesia and topical treatments, were provided to alleviate symptoms and promote healing.

The postoperative course was uneventful, with gradual improvement in the prolapse over time. Despite the contraindication for abdominal surgery, the patient experienced successful resolution of her symptoms with conservative management, highlighting the importance of individualized treatment approaches in complex medical scenarios.

DISCUSSION:

Rectal prolapse (RP) is a condition characterized by the externalization of the rectal wall through the anus [1], commonly affecting children and the elderly, with rare occurrences in young adults. Strangulation of RP, seen in 2–4% of cases [4], is an infrequent complication associated with various factors such as advanced age, pelvic floor dysfunction, or anatomical abnormalities [5]. Techniques like saccharose or salt application can aid in reducing

oedema and prolapse when manual reduction is unsuccessful. However, failure to address irreducible RP can lead to complications like strangulation, ulceration, and infection [6]. Surgical intervention becomes necessary in cases of procedure failure or necrosis [7].

Several surgical procedures, including rectosigmoid resection or the Altemeier procedure, are available for RP treatment [7].

The Altemeier procedure proves particularly beneficial for elderly and frail patients for whom abdominal surgery poses high intraoperative and postoperative risks, despite being a more radical approach with fewer recurrences. Recent advancements in technology, specifically the use of mechanical staplers, offer significant technical advantages that enhance the acceptability and efficacy of the procedure.[10]

In 2005, Grossetti and colleagues introduced the use of linear staplers in the Altemeier procedure. This modification involved creating two transections of the prolapse, anterior and posterior up to the pectinate line, while preserving it, to obtain two hemiprolapses (right and left). Each hemiprolapse is then sectioned at the top using another linear stapler, simultaneously achieving mechanical anastomosis [8].

Mechanical staplers, both linear and circular, offer crucial technical benefits to the Altemeier operation, including shorter operating times and reduced intraoperative blood loss, particularly from large vessels such as the sigmoid arteries. Linear staplers, in particular, streamline the procedure by cutting and closing the intestinal breach simultaneously during the removal of hemiprolapses, unlike

circular staplers which require manual transection of the entire rectal prolapse and subsequent closure of the intestinal wall.

Gravante and al. performed the Altemeier procedure using linear staplers on two patients. They adapted the technique described by Grossetti et al. by initially making incisions on the right and left sides to obtain two symmetrical hemiprolapses (anterior and posterior). This modification aimed to minimize the risk of including an eventual enterocele in the anterior section line. Both patients had an uneventful postoperative course, and follow-up assessments revealed the absence of symptoms.

Stapler technology has significantly improved the execution of intestinal anastomosis across various surgical fields, including the Altemeier procedure. As with other surgical techniques, the Altemeier operation benefits from the specific advantages offered by these devices, contributing to its widespread adoption and efficacy in clinical practice.

Laparoscopic surgery offers advantages such as reduced invasiveness and enhanced visualization, but the choice of approach depends on individual patient factors and surgeon expertise [9]. The successful treatment of this challenging case underscores the importance of surgery in managing RP, with the Altemeier procedure yielding favorable outcomes for cases of incarceration or strangulation [9].

CONCLUSION:

In conclusion, surgical intervention, particularly the Altemeier procedure, plays a crucial role in managing challenging cases of RP complicated by incarceration or strangulation, offering favorable outcomes for patients.

PROVENANCE AND PEER REVIEW:

Not commissioned, externally peer reviewed.

CONSENT

As per international standard or university standard, patient(s) written consent has been collected and preserved by the author(s).

ETHICAL APPROVAL

As per international standard or university standard written ethical approval has been collected and preserved by the author(s).

CONFLICTS INTERESTS

Authors have declared that no competing interests exist.

SOURCE OF FUNDING: None

REFERENCES

1. O. Definition, Prolapsus genitaux et incontinence d'urine, *Gynecologie Pour Prat.* (2018) 137.
2. C.R. Berney, Complicated incarcerated rectal prolapse: a surgical challenge in an elderly patient on antiplatelet agents, *Australas Med. J. Online* 3 (10) (2010) 691.
3. J.D. Vogel, L.F. de Campos-Lobato, B.C. Chapman, M.R. Bronsert, E.H. Birnbaum, R.A. Meguid, Rectal prolapse surgery in males and females: an ACS NSQIP-based comparative analysis of over 12,000 patients, *Am. J. Surg.* 220 (3) (2020) 697–705.
4. I. Voulimeneas, C. Antonopoulos, E. Alifirakis, P. Ioannides, Perineal rectosigmoidectomy for gangrenous rectal prolapse, *World J. Gastroenterol. WJG* 16 (21) (2010) 2689.
5. S.D. Goldstein, P.J. Maxwell, Rectal prolapse, *Clin. Colon Rectal Surg.* 24 (01) (2011) 039–045.
6. W.M. Coburn III, M.A. Russell, W.L. Hofstetter, Sucrose as an aid to manual reduction of incarcerated rectal prolapse, *Ann. Emerg. Med.* 30 (3) (1997) 347–349.
7. I. Kraiem, T. Kellil, M.A. Chaouch, I. Korbi, K. Zouari, Strangled rectal prolapse in young adults: a case report, *Ann. Med. Surg.* 55 (1 juill 2020) 33–35.
8. Grossetti E, Petiot JM, Dornier L. Rectal prolapse resection by trans-anal approach and stapling technique. *Ann Chir* 2005;130:47–9.
9. Jr O. De Oliveira, S.L. Stein, K.I. Trencheva, T. Sonoda, J.W. Milsom, S.W. Lee, Comparative outcomes of elderly patients undergoing Altemeier procedure versus laparoscopic rectopexy for rectal prolapse, *Asian J. Endosc. Surg.* 3 (1) (2010) 28–32.
10. G. Gravante, M.D. D. Venditti, M.D. Rome, Italy, *Dis Colon Rectum*, November 2006, Vol. 49, No. 11. DOI: 10.1007/s10350-006-0705-0