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### Altemeier procedure for strangulated rectal prolapse: A case report

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# **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**

incarcerated rectal prolapse, occurs when the RP dure.

cannot be manually repositioned [1]. Unlike a reducible prolapse that can be pushed back into the **PRESENTATION OF CASE** body, an irreducible prolapse remains protruded We present a case involving a 56-year-old woman, and necessitates medical intervention for resolution diagnosed with acute myeloid leukemia and cur-[2]. Several factors, including the size of the pro- rently undergoing chemotherapy, who presented to lapse, the presence of adhesions or scar tissue, or a the Emergency Department with complaints of a twist or kink in the prolapsed rectum, can contrib- painful protruding mass through the anal canal. ute to this condition. The management of irreduci-

ble RP is a subject of debate [3]. The preferred in-A strangled rectal prolapse (RP), also referred to as tervention in this scenario is the Altemeier proce-

of this mass approximately six hours before seek- ed. Finally, a hand-sewn colo-anal anastomosis ing medical attention. She had a history of consti- was performed using interrupted sutures (figure 2). pation 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 sacarose, necrosis developed, prompting the decision to pursue emergency surgery. However, due to the patient's ongoing chemotherapy treatment and the associated risk Figure 2: Postoperative image after Altemeir proof complications from abdominal surgery, a con- cedure servative management approach was adopted.

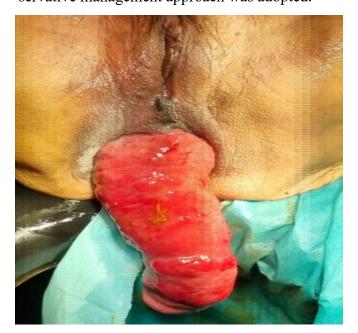


Figure 1: Preoperative image

with normal results from biological data. During anus [1], commonly affecting children and the elthe operation, the rectum was carefully transected derly, with rare occurrences in young adults. Stran-1.5 cm above the dentate line to ensure meticulous gulation of RP, seen in 2-4% of cases [4], is an hemostasis. Mesorectal vessels were ligated and infrequent complication associated with various divided using an energy device. Subsequently, the factors such as advanced age, pelvic floor dysfuncrectal wall and mesorectum were entirely divided. tion, or anatomical abnormalities [5]. Techniques The colon was disinvaginated and transected, with like sacarose or salt application can aid in reducing

The patient reported experiencing the sudden onset approximately 20 cm of the sigmoid colon resect-



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 Altemeir emergency procedure was performed by the externalization of the rectal wall through the

ble RP can lead to complications like strangulation, of the intestinal wall. ulceration, and infection [6]. Surgical intervention becomes necessary in cases of procedure failure or Gravante and al. performed the Altemeier procenecrosis [7].

moid resection or the Altemeier procedure, are sides to obtain two symmetrical hemiprolapses available for RP treatment [7].

The Altemeier procedure proves particularly bene- cele in the anterior section line. Both patients had ficial for elderly and frail patients for whom ab- an uneventful postoperative course, and follow-up dominal surgery poses high intraoperative and assessments revealed the absence of symptoms. postoperative risks, despite being a more radical approach with fewer recurrences. Recent advance- Stapler technology has significantly improved the ments in technology, specifically the use of me- execution of intestinal anastomosis across various chanical staplers, offer significant technical ad- surgical fields, including the Altemeier procedure. cy of the procedure.[10]

In 2005, Grossetti and colleagues introduced the spread adoption and efficacy in clinical practice. use of linear staplers in the Altemeier procedure. This modification involved creating two transec- Laparoscopic surgery offers advantages such as tions of the prolapse, anterior and posterior up to reduced invasiveness and enhanced visualization, the pectinate line, while preserving it, to obtain two but the choice of approach depends on individual hemiprolapses (right and left). Each hemiprolapse patient factors and surgeon expertise [9]. The sucis then sectioned at the top using another linear sta- cessful treatment of this challenging case underpler, simultaneously achieving mechanical anasto- scores the importance of surgery in managing RP, mosis [8].

Mechanical staplers, both linear and circular, offer [9]. crucial technical benefits to the Altemeier operation, including shorter operating times and reduced **CONCLUSION**: intraoperative blood loss, particularly from large In conclusion, surgical intervention, particularly vessels such as the sigmoid arteries. Linear sta- the Altemeier procedure, plays a crucial role in plers, in particular, streamline the procedure by managing challenging cases of RP complicated by cutting and closing the intestinal breach simultane- incarceration or strangulation, offering favorable ously during the removal of hemiprolapses, unlike outcomes for patients.

oedema and prolapse when manual reduction is circular staplers which require manual transection unsuccessful. However, failure to address irreduci- of the entire rectal prolapse and subsequent closure

dure using linear staplers on two patients. They adapted the technique described by Grossetti et al. Several surgical procedures, including rectosig- by initially making incisions on the right and left (anterior and posterior). This modification aimed to minimize the risk of including an eventual entero-

vantages that enhance the acceptability and effica- As with other surgical techniques, the Altemeier operation benefits from the specific advantages offered by these devices, contributing to its wide-

> with the Altemeier procedure yielding favorable outcomes for cases of incarceration or strangulation

# **PROVENANCE AND PEER REVIEW:**

Not commissioned, externally peer reviewed.

### **CONSENT**

As per international standard or university standard, 5. 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.

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