

## Notaras procedure for incarcerated rectal prolapse

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tissues and impaired blood flow are the main factors for a high percentage of anastomotic leaks. So, the traditional single stage perineal rectosigmoidectomy is not a safe surgical procedure for treating an incarcerated or strangulated rectal prolapse associated with severe edema. Herein we report a case of an incarcerated rectal prolapse treated with the Notaras procedure.

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### Abstract

Patients with an incarcerated rectal prolapse usually present in the emergency department where manual reduction is first attempted. If reduction is unsuccessful, an emergency laparotomy and internal reduction is required. Edema in the rectal and perineal tissues and impaired blood flow are the main factors for a high percentage of anastomotic leaks. The traditional single stage perineal rectosigmoidectomy is not a safe surgical procedure for treating incarcerated or strangulated rectal prolapses associated with severe edema. Herein we report a case of an incarcerated rectal prolapse treated with the Notaras procedure.

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**Key words:** Notaras procedure; Rectal prolapse; Incarcerated; Perineal rectosigmoidectomy

**Core tip:** Patients with an incarcerated rectal prolapse usually present in the emergency department where manual reduction is first attempted. If reduction is unsuccessful, an emergency laparotomy and internal reduction is required. Edema in the rectal and perineal

### INTRODUCTION

Rectal prolapse is defined as intussusception of the rectum through the anal canal. Although known and described as early as 1500 BC<sup>[1]</sup>, there is still uncertainty concerning its clinical definition, course and pathophysiology, which justifies the numerous therapeutic modalities and operations proposed<sup>[2]</sup>. Commonly, in many centers a single stage perineal rectosigmoidectomy is performed to treat patients with a reducible rectal prolapse. Patients with an incarcerated rectal prolapse usually present in the emergency department where manual reduction is first attempted. Reduction of a large prolapse may be difficult because of significant edema that collects in the rectal tissues. If reduction is unsuccessful, an emergency laparotomy and internal reduction is required. If patients with an acute incarcerated or strangulated rectal prolapse are treated with perineal rectosigmoidectomy, anastomotic leak risk is 25% during the postoperative period<sup>[3,4]</sup>. Edema in the rectal and perineal tissues and impaired blood flow are the main factors for a high percentage of anastomotic leaks. The traditional single stage perineal rectosigmoidectomy is not a safe surgical procedure for treating an incarcerated or strangulated rectal prolapse associated with severe edema<sup>[4]</sup>.



**Figure 1** Edematous and incarcerated rectal prolapse without gangrenous areas.

## CASE REPORT

In this report, we present a 59-year-old woman with a three year history of Alzheimer's disease. She checked in to the emergency department with a strangulated rectal prolapse which had appeared 3 h prior to consultation. Physical examination revealed a severely edematous and irreducible rectal prolapse without gangrenous areas (Figure 1). Despite sedation, the Trendelenburg position and topical application of sucrose to decrease bowel edema, all attempts for manual reduction were unsuccessful. As a result, we decided to perform a laparotomy. During the laparotomy, we tried internal reduction with external manual reduction again. The last attempt was successful. The prolapsed section was not necrotic, there were no gangrenous areas and blood flow increased. A piece of monofilament synthetic mesh was sutured behind the rectum, covering approximately one-third of its posterior circumference. The upper edge was then sutured to the sacral promontory, as described by Notaras<sup>[5]</sup>. The patient's postoperative course was uneventful and she was discharged on the 8<sup>th</sup> postoperative day. At the 6 mo follow-up, there was no recurrence in the rectal prolapse other than a minor constipation problem.

## DISCUSSION

If the incarcerated or strangulated rectal prolapse cannot be manually reduced, a few techniques may help the bowel return to its anatomic position, such as sedation, Trendelenburg position and/or topical applications of salt and sucrose which may decrease bowel edema and enable a natural reduction<sup>[6]</sup>. The use of an elastic compression wrap can be practiced<sup>[7]</sup>. Perineal rectosigmoidectomy is a good surgical option in cases complicated by necrosis and poor intestinal blood flow. However, patients with an acute incarcerated or strangulated rectal prolapse have an increased risk of an anastomotic leak compared to other elective operations. After internal and external reduction, waiting a few minutes for a better blood supply if the patient has no complications with necrosis is an excellent option. With a good blood flow, the Notaras procedure, in effect rectopexy, suspends the rectum and the presence

of the mesh additionally results in thickening of part of the rectal wall with the result that prolapse of the rectum will be prevented. In conclusion, with a good blood supply and the absence of necrosis, the Notaras procedure can be performed safely in patients with an incarcerated or strangulated rectal prolapse.

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## COMMENTS

### Case characteristics

The patient had pain in the rectum.

### Clinical diagnosis

The patient had an irreducible rectal prolapse.

### Differential diagnosis

It was a certain diagnosis with no differential diagnosis.

### Laboratory diagnosis

Laboratory tests were in the normal range.

### Treatment

The patient underwent emergency surgery (Notaras procedure).

### Related reports

The second and the fifth references are about the repair of rectal prolapses. These studies may help to understand emergency repair of a rectal prolapse and this case.

### Term explanation

Notaras procedure: a piece of monofilament synthetic mesh is sutured behind the rectum, covering approximately one-third of its posterior circumference.

### Experiences and lessons

The Notaras procedure can be performed safely in patients with an acute incarcerated or strangulated rectal prolapse in the absence of necrosis.

### Peer review

This is an interesting case report suggesting the use of a surgical procedure usually not described in the acute phase.

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