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Innovation in surgical technique

Transanal surgery: A tool in colorectal anastomotic leakage☆

Pere Planellas Giné, Júlia Gil Garcia, Ramon Farrés Coll, Antoni Codina Cazador*

Sección de Cirugía Colorrectal, Departamento de Cirugía General y Digestiva, Hospital Universitario Dr. Josep Trueta, Girona, Spain

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ABSTRACT

The treatment of anastomotic leakage after oncological surgery for rectal cancer is a surgical challenge. The goal of this study is to show how transanal surgery combined with the abdominal approach is a very useful tool to decide on individualized treatment depending on the degree of dehiscence and to assist us in its local management. We present three cases of patients with colorectal anastomotic dehiscence. In two, we demonstrate the treatment of acute colorectal leakage and how transanal surgery allows us to confirm its viability and rule out any underlying ischemia. Furthermore, it facilitates good drainage of the adjacent collection as well as the placement of a vacuum system, if necessary, and its subsequent replacements. The last case is a delayed dehiscence with chronic presacral sinus, and its treatment by transanal access for fenestration.

La cirugía transanal como herramienta en la dehiscencia de la anastomosis colorrectal

Palabras-clave:
Cáncer de recto
Cirugía transanal
Dehiscencia anastomótica

RESUMEN

El tratamiento de la dehiscencia de sutura después de cirugía oncológica del cáncer de recto supone un reto quirúrgico. El objetivo de este trabajo es mostrar como la cirugía transanal combinada con el abordaje abdominal es una herramienta muy útil para decidir el tratamiento individualizado en función del grado de dehiscencia y ayudarnos al manejo local de la misma. Presentamos tres casos de pacientes con dehiscencia de sutura colorectal. En dos de ellos se muestra el tratamiento de una dehiscencia colorectal aguda y como la cirugía transanal nos permite comprobar la viabilidad y descartar isquemia subyacente. Por otro lado, nos facilita un buen drenaje de la colección adyacente; así como si es necesaria la colocación de un sistema vaccum y de sus recambios siguientes. El último caso se trata de una dehiscencia tardía con sinus presacro crónico, y su tratamiento mediante acceso transanal para destechamiento del mismo.

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* *Corresponding author.*
E-mail address: planellasp@gmail.com (P. Planellas Giné).

Introduction

Anterior resection of the rectum with total or partial mesorectal excision is the treatment of choice for rectal neoplasms.[1,2] In recent decades, the surgical treatment of rectal cancer has been characterized by a significant increase in sphincter-preserving surgeries. This has been favored by a better knowledge of tumor biology, and free margins of 1 cm being considered correct.[3,4]

Dehiscence of colorectal anastomosis is one of the most devastating complications after rectal surgery, as it increases morbidity and reoperations, worsens cancer outcomes, prolongs hospital stay and increases the rate of definitive stomata.[5]

Anastomotic leakage rates after a previous resection vary among different series between 0.5 and 30%, depending on several factors including the definition of dehiscence used.[6] Cases of silent or late-onset dehiscence may justify higher rates, which reach 25% in some series.

When faced with a case of anastomotic dehiscence, the individualization of the treatment is of great importance, and several factors must be considered: general patient condition, size of the anastomotic defect, indication of the resection performed, presence or not of a derivative stoma, level of the anastomosis, and time elapsed between the initial surgery and the diagnosis of dehiscence.[7]

We present three cases of patients with different degrees of anastomotic dehiscence and their treatment. In contrast to the algorithm followed by the Bemelman et al. group, in our series the use of the transanal approach is combined with an abdominal approach in cases of acute dehiscence. In this manner, and with the patient under general anesthesia, this route allows us not only to diagnose the degree of dehiscence and the state of the coloplasty, but also to act surgically if necessary in both fields and to treat the local pelvic infection secondary to dehiscence

Surgical Technique

Between 2017 and 2018, 172 patients underwent surgery for rectal cancer. In 76% of cases (n = 131), rectal resection was performed with anastomosis; 60% of patients underwent associated diversion ileostomy. Our dehiscence rate was 11% (grade A, 1 case; grade B, 2 cases; and grade C, 11 cases).

In 5 out of the 11 reoperated cases, we treated the dehiscences with this minimally invasive, mixed transabdominal-transanal approach. On two occasions, the closure was performed transanally with single sutures of the defect and transabdominal lavage. In one, a protective ileostomy was also created, and in the other it had already been performed. On two occasions, lavage and diversion were conducted from the abdominal field, and an Endosponge® was inserted transanally. In one case, lavage and diversion were done from the abdominal field with transanal revision, with no pathological findings.

Technique and material. Gynecological position. Placement of the single-port Gelpoint® Path device (Applied Medical, Rancho Santa Margarita, California, USA) with the trocars arranged in a triangle with the vertex in the upper left quadrant, where the optics were inserted (Endoeyeflex 3D®, Olympus), and selective use of the AIRSEAL® IFS-Conmed. To achieve correct pneumorectum and flow rate, we work with a high pressure of 15–20 mmHg and high flow (20 L/min).

Case 1. Small Colorectal Anastomotic Dehiscence With no Associated Collections

A 48-year-old patient with adenocarcinoma of the rectum 9 cm from of the anal margin (rT3N1). Long-cycle neoadjuvant treatment was administered, followed by anterior resection of the rectum with laparoscopic subtotal mesorectal excision and virtual ileostomy.

On the third postoperative day, the patient presented sudden abdominal pain and an increase in septic parameter levels on lab work. CT scan showed a pre-sacral collection and abundant pneumoperitoneum. Surgery with a transanal approach was initiated, using the Gelpoint® Path device and observing a viable anastomosis without associated ischemia of the plasty and no signs of dehiscence. In the laparoscopic abdominal approach, seropurulent fluid was observed in the pelvis, so the abdominal cavity was washed out, a pelvic drain tube inserted and a lateral ileostomy was externalized.

Case 2. Dehiscence of a Large Colorectal Anastomosis and a Collection Associated With Endosponge® Placement

A 77-year-old patient with rectal neoplasm 15 cm from the anal margin (AP adenocarcinoma), rT4N2 on the initial pelvic MRI. The patient received long-cycle neoadjuvant treatment and elective laparoscopic anterior resection of the rectum with partial mesorectal excision and protective lateral ileostomy. The patient's status declined both clinically and analytically on the sixth postoperative day. A CT-enema study showed a contrast leak with a presacral collection.

The anastomosis was reviewed transanally, observing anastomotic dehiscence of more than 90° with associated cavity, but a good appearance of the coloplasty. The cavity was washed out transanally to eliminate the purulent remains, and an Endosponge® was put in place and adjusted to the size of the cavity. Laparoscopy was then performed, and purulent pelvic peritonitis was observed, so thorough pelvic lavage and drainage were carried out, and a drain was inserted.

In this patient, three Endosponge® replacements were performed under general anesthesia for transanal surgical placement. At most hospitals, this is usually done under sedation and guided by an endoscope.[8] Transanal replacement under direct vision provides for better lavage as well as precise control and adjustment for placement of the device in the defect.

Case 3. Late-onset Dehiscence – Chronic Presacral Sinus

A 75-year-old patient with adenocarcinoma of the rectum 7 cm from the anal margin, rT3aN1 on MRI. After neoadjuvant treatment, RAR was performed using the TaTME technique

with protective ileostomy. Definitive pathology: ypT2N0 (0/19); R0 resection.

Six months after surgery, before the closure of the lateral ileostomy, the patient described tenesmus and anal suppuration. The CT enema study showed anastomotic leak and presacral collection. After cleaning the cavity with a transanal catheter, and after the persistence of the collection 3 months later, we decided to perform unroofing surgery of the chronic sinus under direct vision with the placement of the Gelpoint® Path device. Transanally, the chronic sinus was identified at the level of the colorectal anastomosis, and the cavity was unroofed using the endostapler inserted through the device.

Perineal unroofing is a widespread technique, but its disadvantage is having a complex exposure of the surgical field, which is improved with the use of the transanal surgery device.

Discussion

In cases of acute dehiscence, the use of the device for transanal surgery is a resource that helps us assess the state of the plasty, the size of the dehiscence and the existence of associated cavities and collections.

Since 2017, we have carried out a more aggressive initial approach to dehiscences with the aim to control the infection faster and reduce the rate of definitive ostomies. This technical advance is favored by our increasing experience in transanal elective surgery (TAMIS and TaTME).

To aid in the early detection of anastomotic leaks, we determine CRP on the third/fourth day and perform a CT enema study if there are suspected complications. Given the evidence of a dehiscence in a hemodynamically stable patient, we perform a hybrid transanal-transabdominal laparoscopic approach, starting transanally if the suspicion is of peritonitis located in the pelvis.

In patients with dehiscence of less than 90°, with tissues with good appearance and no associated cavities observed in the transanal stage, primary closure of the defect may be carried out. The surgery is completed washing and drainage of the pelvis in the abdominal phase, adding a temporary diverting stoma, without removing the colorectal anastomosis.

In large anastomotic defects of up to 180° or with an associated cavity, but with no associated tissue ischemia, and if the patient's condition allows, the transanal stage enables us to wash out the collection and place a vacuum therapy device (Endosponge®) in the defect in a guided manner, together with the abdominal revision and the creation of a diverting stoma.[9]

In patients with late dehiscences and chronic pelvic sinus with a diverting ostomy, surgical alternatives range from dismantling the anastomosis and performing an end colostomy, to transanal unroofing of the sinus or re-anastomosis.[10] In our experience, this surgery in selected patients with chronic presacral sinus allows us to perform transanal unroofing of the sinus under direct vision. For this, we use an endostapler inserted through the device, adjusting the number of staples based on the size of the sinus. TAMIS surgery is currently accepted as a technique for colorectal re-anastomosis, but it is still associated with high complication rates related to the complexity of the baseline disease.[11]

Transanal revision during reoperation can be a very useful tool to help us individualize the treatment for each patient, increasing the number of anastomoses and decreasing the number of definitive ostomies after anterior resection of the rectum.

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Conflict of Interests

There are no conflicts of interests.

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