Case Report

A combination treatment of transanal total mesorectal excision and Turnbull–Cutait abdominoperineal pull-through procedure for a low rectal cancer

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ABSTRACT

Surgical treatment for low rectal cancer has changed dramatically during the preceding several decades, and the optimal surgical approach remains incompletely developed. Transanal total mesorectal excision is likely the most promising approach for the dissection of the distal part of the mesorectum in a manner that allows for a technically easy and oncologically safe operation. Long after it was first described, the Turnbull–Cutait abdominoperineal pull-through procedure has recently been reintroduced in surgical practice for the treatment of patients with complex anorectal conditions. The current report describes a case of distal rectal cancer involving successful surgical treatment with a combination of the two aforementioned methods and patient discharge without a diverting stoma.

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Um tratamento combinando a excisão total do mesorreto por via transanal e o “pull-through” abdominoperineal de Turnbull-Cutait para câncer de reto baixo

RESUMO

O tratamento cirúrgico para o câncer de reto baixo mudou drasticamente durante as últimas décadas, mas uma abordagem cirúrgica de excelência ainda continua incompletely desenvolvida. A excisão total do mesorreto por via transanal parece ser a abordagem mais promissora para a dissecação da parte distal do mesorreto de forma a assegurar uma cirurgia

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Introduction

The management of adenocarcinomas in the lower rectum poses major challenges in terms of local tumor control and sphincter preservation. Lower tumor sites are associated with more difficult surgical dissections, higher rates of morbidity, and poorer outcomes. A diverting stoma is constructed in many cases involving low rectal anastomoses and reduces mortality, morbidity, and re-operation rates; however, the construction of a diverting stoma does not reduce the anastomotic leakage rate and necessitates a second hospital stay and additional surgery, with considerable patient management costs. Although stoma closure is regarded as a simple procedure, morbidity and even mortality are associated with this surgery.

The Turnbull-Cutait (T-C) abdominoperineal pull-through procedure with delayed coloanal anastomosis (DCA) has recently been reintroduced in surgical practice, more than 50 years after this approach was first described. This procedure avoids stomas, reduces anastomotic leakage and presacral abscesses, and improves sphincter function preservation. Furthermore, advances in surgical techniques with the adoption of total mesorectal excision (TME) for rectal cancer have reduced local recurrence rates and improved oncological and functional outcomes. The introduction of transanal single-port surgery led to the transanal TME (TaTME) technique, in which the rectum is dissected transanally according to TME principles. Research has demonstrated that this technique for low and mid rectal cancer has potential benefits, including a lower rate of circumferential resection margin (CRM) involvement, a lower morbidity rate as a result of avoiding extraction wounds in most patients, and a higher number of sphincter-saving rectal resections that do not compromise oncological outcomes.

Here, we describe a case of rectal cancer located 3 cm from the anal margin in a 55 year-old female and its treatment via a two-stage process involving TaTME followed by colonic pull-through and a DCA procedure.

Case report

A 55 year-old woman presented to our clinic with a 2 week history of constipation and rectal bleeding. A digital rectal examination revealed an irregular mass in the anal canal located 3 cm from the anal verge. The only significant aspect of the patient’s prior medical history was hypertension.

Laboratory findings, including tumor markers, were unremarkable. A colonoscopy revealed an irregular ulcerated mass with hyperemia and ulceration located 3 cm from the anal verge. Biopsy confirmed the presence of adenocarcinoma of the rectum. An 18F-fluorodeoxyglucose-positron emission tomography/computed tomography scan obtained after neoadjuvant chemoradiotherapy revealed partial progression of the lesion with no distant metastasis.

After the aforementioned assessments, the patient underwent TaTME followed by a T-C DCA procedure in two surgical stages. The first stage involved intersphincteric resection in which the rectum was dissected transanally according to TME and exteriorization of the proximal colon was performed with no stoma. On the tenth day after the first-stage procedure, amputation of the exteriorized segment and DCA were performed, using a perineal transanal approach (Fig. 1). During the time between stages, the stump was enveloped in saline-soaked gauze, its viability was visually assessed daily, and the patient was fully ambulatory and resumed a low-residue diet to reduce the volume of feces passing through the pulled-through colonic stump. Pathologic examination revealed that the tumor was 4 mm from the lateral margin and more than a centimeter from the distal margin.

Despite a prolonged hospital stay and a temporary decline in quality of life, the patient has now been followed up regularly for 6 months and is currently disease-free, with no sphincter dysfunction and no stoma (Fig. 2). The patient had no low anterior ejection syndrome (LARS) with the score of
Currently, these techniques are employed almost exclusively, but some centers have reported successful outcomes using the transanal endoscopic microsurgery with local excision and stapled transthoracic rectal advancement (i.e. TaTME). Although these techniques have been shown to be technically feasible, there is a concern that they may not be oncologically safe and may result in higher rates of local recurrence. Moreover, these techniques are associated with a higher rate of pelvic abscesses and sepsis compared to traditional surgical approaches.

In conclusion, the surgical treatment of rectal cancer continues to evolve, with new techniques being developed to improve oncological outcomes while minimizing the risk of complications. However, further research is needed to determine the optimal approach for each patient and improve patient outcomes.
The patient's quality of life and led to better oncological and functional outcomes. This approach also allowed the patient to receive early chemotherapy. However, relative to other approaches, this combined procedure was associated with a longer operating time and a prolonged hospital stay. In addition, LARS and Wexner scores indicated that no severe bowel dysfunction was observed after the surgical interventions.

In conclusion, TaTME combined with the T–C DCA procedure can prevent future complications and allow for the preservation of gastrointestinal continuity with acceptable functional and quality-of-life results for the majority of patients.

**Conflicts of interest**

The authors declare no conflicts of interest.

**References**