New Strategies in Rectal Cancer

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KEYWORDS

• Transanal TME • Organ-preserving strategies • Local excision • Watch and wait

KEY POINTS

- Neoadjuvant chemoradiation may lead to significant tumor regression and to complete pathologic response in rectal cancer.
- Assessment of tumor response may identify patients who could be managed with organ-preserving strategies, including the Watch and Wait strategy and local excision.
- When organ-preserving strategies are used for rectal cancer, close surveillance may allow early detection of local recurrences and salvage alternatives.
- In case of incomplete response to chemoradiation, the best alternative for most patients will still be proper total mesorectal excision: minimally invasive or conventional open surgery.

INTRODUCTION

The development and implementation of newer treatment modalities have significantly increased the complexity in the management of rectal cancer,[1] with surgical treatment remaining as the main pillar. Interest into the different approaches for total mesorectal excision (TME), including standard laparoscopy, robotic surgery, and transanal TME are increasing rapidly. This interest is not only based on the advantages of smaller incisions, but also on the desire to obtain a better specimen quality, which may translate into a better oncological outcome.

Several recent trials have focused on the oncological outcomes of laparoscopic rectal cancer surgery compared with the standard open approach, and results have been mixed,[2–5] with some showing laparoscopy to be either equivalent or even favorable to open surgery, whereas others were unable to establish noninferiority for

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laparoscopy.[4,5] Most experts agree that laparoscopic rectal cancer surgery is very complex and technically demanding, and it cannot be universally applied to all patients. To overcome specific technical complexities associated with laparoscopic TME, transanal total mesorectal excision (TaTME) has emerged as a technique that enables meticulous endoscopic dissection from the bottom up, which reduces the technical constraints of the narrow pelvis.

In addition to changes in the surgical approach to rectal cancer, there have also been many advances in neoadjuvant therapy with subsequent management tailored to the tumor response. Neoadjuvant chemoradiation (nCRT) may lead to significant tumor regression, ultimately leading to complete pathologic response in up to 42% of patients.[6] Assessment of tumor response after nCRT and before radical surgery may identify patients with complete clinical response that could be managed nonoperatively with strict follow-up (watch and wait [WW] strategy) and thus avoiding unnecessary postoperative morbidity with good long-term oncological outcomes and excellent functional results.[7–11] In addition, close surveillance may allow for early detection of local recurrences and subsequent salvage surgery without a significant compromise in the oncological outcome.[12]

This article discusses these new strategies for the management of rectal cancer.

ORGAN PRESERVATION IN RECTAL CANCER

Different organ-preserving strategies for the treatment of rectal cancer have gained popularity in recent years. Regardless of approach, proctectomy is associated with significant postoperative morbidity, including long-term urinary, sexual, and fecal continence dysfunction in addition to the requirement for temporary or definitive stomas associated with the procedure. Also, depending on age and comorbidities, postoperative mortality also may be quite significant.[13] Therefore, in selected patients, surgical and even nonsurgical approaches that spare the rectum have been suggested.[14]

The observation that rectal cancers could develop significant tumor regression with reduction in primary tumor size (downsizing), depth of tumor penetration, and even potential nodal sterilization (downstaging) after nCRT could set the ideal stage for organ-preserving alternatives, including local excision of small and superficial residual tumors.[15] In addition, regression of the primary tumor could result in complete disappearance of the tumor in the resected specimen (complete pathologic response [pCR]) in some patients. In a subset of these patients, complete regression of the primary tumor is clinically detected before surgical resection, referred to as a complete clinical response (cCR).[16] It is in these patients with a cCR after nCRT that we have considered a WW strategy without immediate surgical resection.[9] To consider these approaches, surgeons must take into consideration several aspects of the disease, patients, and treatment modalities that may be quite relevant during their clinical decision-making process.

Assessment of Tumor Response

When considering patients for the WW strategy, assessment of tumor response is crucial. However, this assessment can be challenging due to uncertainties regarding the optimal timing of the assessment, and the most accurate clinical and radiological tools for this purpose.

Of note, assessment of tumor response is also recommended for patients with a partial clinical response in which organ-preserving strategies are not being considered. Even if the plan after nCRT is a radical resection, one needs to consider that after nCRT, the surgeon may be facing a considerably different tumor. Knowing this