International Journal of Surgery 64 (2019) 62–63

Contents lists available at ScienceDirect

International Journal of Surgery

journal homepage: www.elsevier.com/locate/ijsu

Letter to the Editor

Why transsphincteric rectal resection techniques could not attain to their deserved place in sphincter-saving lower rectal cancer surgery despite their locoregional oncological advantages?

ARTICLE INFO

Keywords:
Lower rectal cancer
Sphincter-saving surgery
Transsphincteric rectal resection

Dear Editor

It is possible to find a significant number of the sphincter-saving surgical techniques described with different anatomical definitions for surgical treatment of lower rectal cancer in the literature. Anatomic definitional complexities of the lower rectum and anal sphincteric muscles are the most important causes of this controversial situation. While the upper and middle one-thirds of the rectum have abdominopelvic localization, the lower one-third has abdominopelvic and ischioanal localization when the levator ani muscle is considered as a milestone between the abdominopelvic and ischioanal compartments. The ischioanal part of the lower rectum, one of the major components of the surgical anal canal is completely wrapped by external anal sphincteric musculature below the puborectal muscle level. In this manner, the surgical anal canal is formed by two nested-manner settled cylindrical muscular tubes, and the intersphincteric space should be considered as a potential space between the nested-manner cylindrical muscular tubes in which intersphincteric dissection is performed. The external anal sphincteric musculature has a coil-like shape as a whole, and extrasphincteric rectal dissection is performed outside of it in the ischioanal fossa.

An adequate surgical access to the distal part of the rectum may not be achieved by only the abdominal pathway due to the insufficient surgical access of the lower rectum. There is no other surgical route to reach to the lower rectum located below the puborectal muscle level, except the intersphincteric and extrasphincteric dissection planes (Fig. 1). The intersphincteric resection (ISR) techniques are performed in the intersphincteric dissection plane by using perabdominal or peranal pathways including the transanal total mesorectal excision technique [1]. While surgeons are often familiar with the ISR technique, they may not be familiar with the transsphincteric rectal resection (TSR) techniques. TSR are sphincter-saving procedures that cannot be evaluated adequately in terms of their anatomical and clinical features compared to ISR. TSR techniques are performed by using the combined abdominal and perineal approaches. The main aim of the anterior or posterior perineal access in TSR is to provide sphincter-saving extrasphincteric rectal dissection in the ischioanal fossa below the puborectal muscle level. For this reason, TSR should be considered as sphincter preservation for lower rectal cancer rather than middle rectal cancer [2]. The most important surgical point to be aware of in TSR is the connection of the abdominopelvic and ischioanal compartments separated by fibrous adhesions between the puborectal muscle and lower rectum. It is clear that the TSR techniques have been defined with different definitions by different authors. TSR should be defined as sphincter-saving surgical procedures in which sphincter-saving extrasphincteric rectal dissection, transsphincteric distal rectal resection and proximal segmental sphincteric excision techniques are realised [3,4].

A high locoregional recurrence is one of the most important life-threatening problems, especially in lower rectal cancer cases. **Circumferential resection margin (CRM) involvement have been reported to be between 10–30%, depending on the local stage of the rectal tumor in the lower rectal cancer. Patients operated using ISR is one of the most important predictive factors of locoregional recurrences in rectal cancer.** CRM positivity should be considered as existence of remaining tumor cells in the operation field after rectal resection. CRM positivity may be due to inappropriate ISR techniques and it can occur even in locally low stage lower rectal cancer patients. It has been shown that the cylindrical rectal amputation technique performed in the extrasphincteric plane has some locoregional oncologic advantages including decrease in CRM positivity and tumoral perforation ratios [5]. The TSR techniques are performed in the extrasphincteric plane as in cylindrical rectal amputation.

It is known that the sphincter-saving TSR techniques could not attain to their deserved place in rectal cancer surgery. The use of different definitions for TSR by different authors, and the lack of use of the extrasphincteric sphincter-saving rectal dissection in TSR are the most important reasons for not achieving good results for these techniques. The performing of the sphincter-saving procedures in the extrasphincteric plane and the realising of the proximal segmental excision of the external anal sphincteric musculature are the most important surgical points in the TSR techniques. Tumoral involvement of the external anal sphincteric muscle system, which is considered to be a contraindication for sphincter-sparing surgery in ISR by some clinicians, should not be considered as a contraindication for sphincter protection in patients operated with TSR, because the invasive proximal segment of the external anal sphincteric muscle can be resected with the tumoral involved lower rectal segment. TSR have postoperative complications, such as perineal infection and persistent perineal fistula, which have been reported to be between 5 and

https://doi.org/10.1016/j.ijsu.2019.02.012
Received 12 February 2019; Accepted 14 February 2019
Available online 27 February 2019

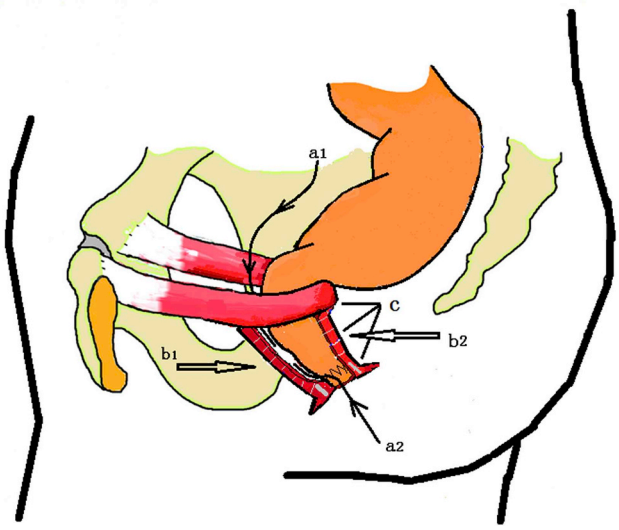

Fig. 1. Illustration of the surgical routes of the intersphincteric and transsphincteric rectal resection. Techniques. (a 1- perabdominal intersphincteric dissection and resection, a 2 - peranal intersphincteric dissection and resection, b 1 - anterior extrasphincteric dissection and transsphincteric resection, b 2 - posterior extrasphincteric dissection and transsphincteric resection, c - external anal sphincteric musculature).

9%. In conclusion, the locoregional oncological advantages obtained by performing surgeries in the extrasphincteric plane should be considered when using the TSR techniques, rather than first considering the complications.

Data statement

This manuscript contain a correspondance entitled ' Why transsphincteric rectal resection techniques could not attain to their deserved place in sphincter-saving lower rectal cancer surgery despite their locoregional oncological advantages ?

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Provenance and peer review

Not Commissioned, internally reviewed.

Conflicts of interest

The author declares no conflict of interest.

Financial disclosure

The author declares that this study has received no financial support.

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