

Peer Review File

Article information: <http://dx.doi.org/10.21037/ales-20-74>.

Reviewer 1's comments to the authors:

Despite significant editing, would recommend further review of corrections and reediting for improved content and flow.

This has been performed throughout. See revised manuscript. Thank you.

Reviewer 2's comments to the authors:

Narrative is well written overall however spends too long on the historical background of rectal cancer surgery. That part should be brief and get on with talking about MIS proctectomy; which actually receives remarkably little attention in the manuscript.

The function of this invited chapter was to introduce concepts in the development of rectal cancer surgery, hence this review focuses on the history and development of rectal cancer surgery from open to laparoscopic and robotic. The authors feel this is necessary in order to lead nicely into the concept of the novel technique of taTME. With this in mind and discussion with the editors the authors feel the title of the chapter should now read as: Development of surgical concepts in rectal cancer resection and challenges in MIS proctectomy.

Title: Development of surgical concepts in rectal cancer resection and challenges in MIS proctectomy

There is only cursory reference to the existing data regarding the challenges of MIS including based on some of the data from the RCTs. Rather than simply listing them, there is data from those trials that justifies the concept that MIS proctectomy is challenging and that is what should be in the tables. Another example is the statement that there is heterogeneity in the reports of MIS that limit interpretation, so how does that impact view of the challenges?

These RCTs are further discussed in the MIS Proctectomy section of this chapter.

In the end, taTME is proposed as a solution but the discussion is very cursory and not really supported by the data. Furthermore, issues such as the Norwegian moratorium is ignored. Robotic surgery is likewise not well described; it is also a technique for addressing challenges.

As already mentioned the role of this chapter was to introduce concepts of rectal cancer surgery and elude to challenges in MIS rectal cancer resection. It is an introductory chapter to TaTME and sets the scene as to why taTME was developed. The authors do not outline taTME as the complete solution. Simply we introduce it as a technique and the potential it has to overcome some non-modifiable factors in low rectal cancer resection.

Overall, suggest the authors dramatically reduce the section on the history/etc. and focus more on the challenges and the proposed solutions.

Reviewer 3's comments to editors:

I am very unsure as to the value of this paper and what it is trying to say. The title does not match the manuscript. There is no stated aim, nor methods. It is mainly a historical review of surgery for rectal cancer. It is selective in its review of modern literature on MIS for rectal cancer, and is not a detailed thorough presentation of this complex area. It glosses over the “challenges in MIS proctectomy” which is its title.

This is a review article acting as the introductory chapter for TaTME. It sets out to discuss the development of rectal cancer surgery and throughout introduce challenges surrounding challenges in MIS proctectomy based on patient, surgical and tumour related factors. The brief given to the authors regarding this chapter was to introduce the historical development of rectal cancer surgery and discuss challenges in performing MIS proctectomy. The changes in rectal cancer surgery over time is paramount in order to set the scene for the introduction of taTME as an adjunct in rectal cancer surgery. With that the title of the chapter has changed to;

Title: Development of surgical concepts in rectal cancer resection and challenges in MIS proctectomy

The abstract does not follow a standard abstract format, and is really just an introductory paragraph for the manuscript. It does not describe the content of the paper at all. The standard abstract format should be followed.

This is an abstract for the review article – there were no instructions given for abstract formation. The abstract sets the scene for chapter highlighting the development of rectal cancer surgery at the beginning followed by challenges in rectal cancer resection and ending in potential therapeutic options for low rectal cancers.

Line 140: The CRM is considered a marker of surgical quality: This is partly true. The CRM reflects the anatomy of the tumour in relation to the fascia propria, as well as the plane of dissection. The pathological assessment of the mesorectal plane (Quirk et al) is also an important measure of the quality of the surgery.

This has been included. Thank you.

Line 145: “less local recurrence rate: Should be “*lower* local recurrence rate”.

This has been corrected.

There are numerous other minor corrections.

These have been revised. Thank you

Table 1 lists many of the MIS trials rectal cancer surgery. The text discusses the COLOR2 and Z6051 trial results showing equivalent LR and survival data, however the concerns regarding a lack of pathological equivalence (shown in Z6051 & ALaCaRT) are not discussed.

This has been included.