



# Complete mesocolic excision for colonic cancer: remarks on an expert consensus statement

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The expert consensus statement published in the *Annals of Laparoscopic and Endoscopic Surgery (ALES)* is a product from an interesting survey taken among opinion leaders in colorectal surgery concerning the evidence and perspectives of complete mesocolic excision (CME) for colonic cancer.

The concepts of removing the complete envelope and of embryological surgery, are principles that when applied to other organs, such as the rectum or stomach, have demonstrated better oncological outcome with significant reduction of local recurrence rate (1,2).

Even if it cannot be considered a true “consensus”, because the evidence and the grades of recommendations are still lacking, this expert consensus statement extensively reports the thoughts of several opinion leaders about CME in colon cancer; the questions are appropriate and the literature review is exhaustive.

The first question concerning the definition, description, and safety of the technique reached high accord among the experts.

Some theoretical concern does remain about the “correct” definition of CME: we can understand the technique as described by Hohenberger (3), which is associated with an extended Kocher manoeuvre, or we can also include a high vascular ligation (HVL) and the resection of integral sheets of the mesentery, ascending colon, and transverse mesocolon within the definition of CME. In my opinion, these concerns are mostly “theoretical” as both descriptions sufficiently delineate the concept of CME and the oncologic safety of the procedure is not modified either way.

I do agree with the experts that the current concept of CME is sufficiently clear in definition, that the embryology

and anatomy of the colon is well-described, and that, for cancer, the concept of CME and the anatomy of the fascias for the left colon and splenic flexure are intelligibly outlined.

The principle of embryologic surgery is gaining more popularity among colorectal surgeons and the improvement in knowledge of embryologic-based anatomy is probably correlated to the technologic development of high quality video surgery. There is a greater availability of high definition, 3D 4K imaging systems, and the increased diffusion of robotic platforms have permitted surgeons to develop even more precise, plane-based, surgical techniques.

These are likely the reasons why a well-known technique like CME, associated with HVL, has recently returned as a matter of popular debate.

As for minimally invasive CME, the consensus among experts is weaker, particularly in the areas of robotics and single port procedures. In our experience with robotic surgery, right colectomy with CME and HVL is a feasible operation yielding good oncologic results that are potentially superior than those attained with standard resection (4).

The poor oncologic outcome of right colon cancer has been acknowledged, and the quality of surgery may be responsible for this result (5,6). Therefore, the question concerning the specific oncologic outcome of CME is a highly relevant one. While the majority of the experts agree about the better staging and the higher number of lymph nodes retrieved with CME, one third of the experts are not convinced about the better oncologic outcome in terms of survival rates and local recurrence rates potentially obtained by the technique. At the moment, the data reported by the

literature review cannot state with formal evidence that the oncologic outcome is better, and thus more studies are needed to evaluate the oncologic value of CME.

Concerning CME's performance compared to D3 resection, the majority of the authors agree that CME does not improve the radicality of the resection when compared to D3 lymphadenectomy. The differences between the two techniques are probably largely theoretical, but the common aim of both techniques is to enlarge lymphadenectomy to the root of the superior mesenteric vessels. CME can be considered to be more focused on the embryological planes of mesentery, trying to obtain a more extensive length of resection.

As it relates to the specific indications of CME, there is a general agreement among experts in considering CME indicated to all locations, rather than for left-sided cancer. This is strange, because standardized left colectomies are usually performed with HVL and maintain the integrity of the mesocolon.

On the other hand, there is a weaker consensus among the experts regarding the potential oncologic benefits of an extended resection and lymphadenectomy. As clearly reported in this paper, strong levels of evidence that CME improves oncologic outcomes are currently lacking. Nonetheless, the majority of the experts, 10 out of 14 (71%), ultimately consider CME as the gold standard approach.

In this regard, it is interesting to note that oncologic surgery in other "big killer" cancers like breast, lung, and prostate cancer are going in the direction of a selection and a possible reduction in the extension of resection and lymphadenectomy. In contrast, in colorectal surgery, the topics of interest are CME, extended lymphadenectomy, or lateral pelvic nodes dissection in rectal cancer.

In my opinion, we should evaluate whether the direction in colorectal oncologic surgery should lean towards the extension of surgery or whether it should rather be pointed towards a better lymph nodal status evaluation and a more accurate biologic mapping of the disease. Moreover, the screening programs are increasing the number of early stage colorectal cancers, and in the near future, genetic platform mapping of the disease will probably be able to define even more precisely the profiles of the disease and its evolution.

It is likely that a more careful staging of the disease is needed, with a major role of preoperative imaging and of intraoperative lymphatic mapping awaiting the improvement in genetic mapping techniques to define a tailored surgical strategy.

Personally, I am not convinced that an extended resection such as CME is necessary for all the patients. Nevertheless,

patients with a clinical N positive disease, or a T3 tumor of right colon flexure or proximal transverse colon, could benefit in terms of better staging and oncologic outcome of a CME and HVL.

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