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Editorial

Assessment of the quality of bowel cancer surgery: "from the mesorectum to the mesocolon"

Evaluación de la calidad de la cirugía en el cáncer de colon. «Del mesorrecto al mesocolon»

In recent decades there has been an extraordinary progress in rectal cancer surgery, presenting outstanding results regarding the drop in the number of local relapses. This occurred because of standardisation of the total mesorectal excision technique[1] introduced at national level through educational and audited programs, as is the case of Spain.[2,3] However, we would not be aware of the steps taken without the information provided from analysing the circumferential margin and evaluating the mesorectal resection quality.[3-6] In short, the combined evaluation of these two parameters by an expert pathologist is essential in the multidisciplinary team exercise, allowing the surgical quality to be measured and to show the impact of the surgery as a prognostic variable in rectal cancer.

However, in the past three decades there have been very few alterations to the criteria for standard large bowel cancer resection, depending on the tumour site.[7] It would seem that this surgery is carried out in a similar manner by all surgeons and oncology side effects would only be a result of greater tumoural aggressiveness. However, there are studies that show an outstanding variability in the rate of local relapses with inconsistent figures: 2.4%,[8] 3.1%,[9] 11.5%,[10] and even 18%,[11] which suggest that the surgeon is an independent prognostic variable in large bowel cancer. The prognostic importance of the surgeon is unquestionable especially in tumours that are locally advanced as is the case for the tumours named "T4a", which are extended to neighbouring structures, or "T4b", which invade the serous membrane with a high risk of peritoneal carcinomatosis.[12] Amongst these, there is a high risk of tumoural dissemination or perforation, due to inadequate handling or dissection by not carrying out a block excision of the tumour with the potentially affected structures.[7]

On the other hand, the appropriate level of vascular ligation is still a controversial matter. There is scientific evidence showing that the extent of lymphadenectomy is important in relation to the prognostic impact associated with the number of nodes retrieved. However, this variable also depends on the pathology.[13] The "high" ligation can be determined during prognosis of locally advanced tumours although there is no evidence that shows its prognostic efficiency, probably due to the retrospective character of the studies available.[14]

Standardisation of the resection technique along the embryological planes in the colon has shown prognostic effect.[15] The relationship between large bowel cancer surgery quality, initial tumour staging and survival has recently been analysed in a retrospective observational study by West el al.[16] This study proves alarming surgical shortcomings in the plane of resection of the pieces retrieved, showing surgeon variability. Consequently, only 32% of resections have been practiced in the correct mesocolic plane and up to 24% are carried out in the muscularis propia plane with adverse prognostic impact on survival, especially in stage III cancer. Furthermore, when considering the role of the surgeon, the recent Hohenberger et al[17] publication should be highlighted because it shows that the favourable prognostic value for radical surgery is based on concepts associated with complete mesocolic excision (CME) together with central ligation of vascular pedicles. Right hemicolectomy greatly contrasts with the wide range of the standard surgical techniques currently available. Considering it to be the ideal technique, it would be a challenge for it to be carried out using laparoscopy.

Recently much interest has been shown[18,19] in evaluating large bowel cancer surgery quality by anatomopathological analysis of the correct plane of resection and the level of vascular pedicles ligation as determining factors for the range of nodular resection. Introducing these measuring elements in grading the surgical quality for large bowel cancer is considered an essential tool for multidisciplinary teams, when assessing the oncological surgical results for this type of cancer. In fact, it has already been introduced in trials that are in progress such as *Fluoropyrimidine, Oxaliplatin & Targeted Receptor pre-Operative Therapy for colon cancer*[16]

(FOxTROT). In the coming years we will undoubtedly have first-class scientific evidence regarding this matter. It may lead to surgeons and pathologists being reintroduced to this subject in the form of an educational and audited project in "total mesocolon excision" surgery, possibly in the same way that rectal cancer was.

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Eduardo García-Granero
Sección de Coloproctología, Asociación Española de Cirujanos, Madrid, Spain

E-mail: eggranero@telefonica.net