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Letter to the Editor

Laparoscopic cytoreductive surgery and HIPEC for advanced ovarian cancer

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We have read with great interest the original article by Morton *et al.* [1] on "Assessing feasibility and perioperative outcomes with minimally invasive surgery (MIS) compared with laparotomy for interval debulking surgery with hyperthermic intraperitoneal chemotherapy (HIPEC) for advanced epithelial ovarian cancer" published in Gynaecologic Oncology. They have performed a comparative analysis between MIS and laparotomy for patients who underwent interval cytoreductive surgery (CRS) + HIPEC for peritoneal metastases. They did not find differences regarding post-operative complications or recurrence free survival, however significant shorten length of stay and an optimal discharge disposition were reported.

We agree with the authors' conclusions about the statement of the feasibility of MIS for CRS + HIPEC for advanced ovarian cancer. The benefits of a shorter hospital stay and an enhanced recovery without detriment to the disease free-survival entails an important improvement in the surgical management of these patients. In this manner, our team has recently published similar results, with the additional finding of a shorter time to turn back to chemotherapy in the MIS group [2]. Besides these promising results concluded from these articles, they both have some bias as the limited sample size and their retrospective nature.

Regarding to the present publication, we think that two important aspects should be taken into consideration. The first peculiarity is that both groups of patients do not seem to be comparable in relation to the burden of disease in spite of no significant statistically differences were found, probably because of the small sample size. The laparotomy group would have more burden disease since more small and large bowel resections were performed than the MIS group, in which, only hysterectomies plus omentectomies were done. In order to get a more objective description of the abdominal tumour spread, a validated score should be used, such as the Peritoneal Carcinomatosis Index (PCI) or the laparoscopic Fagotti's score [3].

The second consideration is the use of the GOG R score to describe the completeness of cytoreduction, which considers a residual tumour size up to 10 mm as an optimal cytoreduction. Since one of the most relevant factors on the overall survival for patients with ovarian cancer with carcinomatosis is the residual tumour size [4], the most complete cytoreduction must be achieved. The Completeness of Cytoreduction Score (CCS) [5] is an international validated score to describe the residual disease after the cytoreduction for peritoneal metastasis. It considers as optimal cytoreduction when residual disease is zero or less than 2.5 mm (CC0, CC1). It is demonstrated that a residual disease less than 2.5 mm could be suitable to be treated by HIPEC since the maximum penetrance of cytotoxic drugs [6]. With this regard, a tumour size between 2.5 mm and 10 mm would be considered as suboptimal oncological surgery (CC2). We must highlight the importance of the use of this nomenclature concerning its relevance to the survival outcome of the patients.

In our Unit we have performed more than 500 cytoreductive surgeries + HIPEC for ovarian carcinomatosis from 1997 to 2020. Since 2016, we have performed 35 CRS + HIPEC by MIS, from which, 12 patients had ovarian origin. We would like to share an overview of our experience and results of the MIS for ovarian tumours with limited peritoneal metastases in the **Supplementary Material 1**.

In our experience, the conscientious selection of the patients with ovarian peritoneal metastases for a MIS must be the key: patients with a limited disease (PCI less than 10) and a distribution of the implants that allows to achieve a complete cytoreduction.

Intestinal resections was necessary in 3 cases because of infiltration of the rectal wall. When it was possible, the extraction of the resected organs could be performed throughout the vagina. We would like to remark the benefits of MIS for the patients as our median hospital stay is 5 days and the time to return to chemotherapy is 4 weeks. Our mean overall and disease free survival are 28.5 (23.8–33.2) months and 21 (15.3–26.7) months, respectively, with a follow-up time up to 35 months. We have only reported one early peritoneal recurrence (11 months after surgery): a patient with a poorly differentiated disease with an initial high burden of

disease and ascites but an excellent response to neoadjuvant chemotherapy. We would like to highlight the special care in the selection of the cases for laparoscopic CRS + HIPEC: low BMI, minimum number of previous surgeries and a PCI inferior than 10, evaluated by a previous exploratory laparoscopy or CT scan.

The MIS and HIPEC for peritoneal metastases from ovarian cancer might be a promising approach in order to decrease the length stay and turn back to adjuvant chemotherapy earlier. However, we should be cautious to recommend this approach as a standard practice since further studies are necessary with longer follow up.

Author contributions

Both of the authors have contributed equally to this work.

Ethics approval and consent to participate

This study has been approved by Cordoba ethics committee (Date: 26 June 2019) (Number: 4358) and patients consented to participate.

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Conflict of interest

The authors declare no conflict of interest.

Supplementary material

Supplementary material associated with this article can be found, in the online version, at https://ejgo.imrpress.com/EN/10.31083/j.ejgo4204095.

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