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Letter to the Editor

Comment about "The hyperthermic intraoperative intraperitoneal chemotherapy in the treatment of advanced abdominopelvic cancer. Personal experience on 103 procedures during a seventeen year period in a single Italian center"

Dear Editor,

The hyperthermic intraoperative intraperitoneal chemotherapy (HIPEC) represents an interesting multidisciplinary approach to treat peritoneal carcinomatosis (PC) for different kinds of cancer diseases. This kind of therapeutic approach was described for the first time, in an experimental paper by Hoffman, who reported, in 1955, inhibition of tumor's growth in mice by hyperthermic baths, and the method was later tested for the treatment in human cancers[1].

In the 80s, the association between hyperthermia and chemotherapy generated considerable interest as studies in vitro showed that hyperthermia had potentiated the effects of antiblastic drugs (ACs)[1].

In 2004, the acronym HIPEC, first used by the Netherlands Cancer Group, received the Experts' consensus at the Madrid 4th International Workshop in peritoneal surface malignancy.

HIPEC is the most widely accepted strategy among the treatments of the peritoneal surface. It can be performed in different settings, as colorectal cancer (CRC), ovarian, pseudomixoma peritonei, gastric cancer (GC), mesothelioma, and with different ACs[1].

Regarding this topic, we read with interest the article by Di Miceli D et al[2], entitled ''The hyperthermic intraperitoneal chemotherapy in the treatment of advanced abdominopelvic cancer. Personal experience on 103 procedures during a seventeen year period in a single Italian center". The authors reported their single-center experience in this field so far focusing on outcomes in different kinds of PC, performed in 17 years. The results of this series are very encouraging, considering the kind of cancer diseases treated, the age range of treated patients, especially for those over 70 years and the promising results obtained, mostly in CRC.

All patients are perfectly staged with MRI and/or CT-scan or FDG-PET/CT-scan in the peri-operative period, including the use of the peritoneal cancer index (PCI) and according to good clinical practice.

The PCI score was calculated at laparotomy. The cytoreduction score (CC) was calculated for all patients before doing HIPEC. Hyperthermic intraperitoneal chemotherapeutic treatment HIPEC was administered after performing cytoreductive surgery at 41°C (min 39°C-max 42°C) according to literature[3].

The hyperthermic intraperitoneal ACs treatment used were mitomycin (MMC), oxaliplatin (OXDDP), cisplatin (DDP) and the combination of DDP plus farmorubicin and DDP plus MMC in 84, 1, 2, 4, and 3 patients respectively.

Very interesting the CC score 0 obtained in 89 patients, the median hospitalization (12 days) and post-operative complications recorded, only in 23% of patients. The most frequent complications reported are similar to those described in literature[3,4].

The evaluated 5-years survival for patients with GC was 32.8% and for those with CRC 62.5% (p=0.006). The evaluated 5-years disease-free survival (DFS) for patients with GC was 17.9% and for those with CRC 52.0% (p=0.004).

The different results obtained between GC and CRC, regarding DFS and survival, reflects the cancer biological-molecular characteristics and prognostic aspects[5,6] of these cancer diseases

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We believe that some considerations in this case series must be done:

1) Why did the authors use OXDDP in only 1 patient, considering the efficacy and good safety profile of this AC in the treatment of CRC[7-11]? In fact since the end of 90's the OXDDP is entered in the treatment also of the peritoneal carcinomatosis[12].
2) Why the authors didn't' report the clinical and prognostic aspects of the patients, as performance status, comorbidities, etc., and cancer diseases as biomolecular aspects: all RAS, Braf for CRC and HER2 for GC[13]?

These aspects could better explain the outcomes in this setting. In our opinion, especially for CRC and GC, also a retrospective analysis of this cohort to find prognostic factors and predictive response to ACs as all-Ras, Braf, HER2, ecc., could be useful to select, adequately, patients and ACs to use during HIPEC[9].

In the future, do the authors think to select only patients with PC by GC and according to biomolecular aspects and stage of disease to treat with HIPEC, considering the conflicting survival data in this particular setting?

About PC by CRC, we know that in recent years HIPEC has been developed as a treatment for the peritoneal disease.

Some studies[6] indicated that the only treatment options to improve the survival of patients seem to be represented by the cytoreductive surgery and HIPEC. But it must be considered that these procedures are burdened with significant morbidity and mortality. Therefore, it is essential a careful selection of the patients that can tolerate and benefit from these types of treatments rather aggressive. In any case, the prognosis in these patients is conditioned by the extents of carcinomatosis, by Sugarbaker's peritoneal cancer index, by the possibility of obtaining a complete cytoreduction and by the opportunity to perform a postoperative systemic chemotherapy.

In conclusion, we think that this kind of article is important to improve the knowledge about HIPEC in patients with PC and at the same time to highlight the importance of multidisciplinary approach[11] with the aim to obtain better therapeutic results in cancer diseases with poor prognosis[14].

Conflict of interest

The authors declare no conflicts of interest.

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