

LETTER TO THE EDITOR

Reply to “The incidence of cisplatin nephrotoxicity post hyperthermic intraperitoneal chemotherapy (HIPEC) and cytoreductive surgery”A. Macrì¹, F. Fleres¹, E. Cucinotta¹, R. Catanoso², and E. Saladino¹¹Department of Human Pathology, University of Messina, Messina, Italy and ²S.A.S.T.A.S. Department, University of Messina, Messina, Italy

We read an article by Hakeam, Breakiet, Azzam, Nadeem, and Amin, with interest and would like to congratulate the authors for the effort that they have put in a field so challenging.

Cytoreductive Surgery plus Hyperthermic Intraperitoneal Chemotherapy (HIPEC) is, in fact, a promising approach to treat peritoneal surface malignancies,¹ but it is characterized by high morbidity and mortality. In literature it is reported that a major morbidity rate ranges from 12% to 57% in high-volume centres;^{2,3} the mortality incidence ranges from 0.9% to 11%.^{3–5} The short-term outcome is related to surgery, but also to chemoperfusion.

We agree with the conclusions made by the authors, confirming, on the basis of our experience,¹ that nephrotoxicity can complicate HIPEC, above all if it is performed using cisplatin.

As this topic has not yet been fully elucidated, we measured the plasma level of cisplatin before, during and after HIPEC, in order to identify the period within which there is the higher risk of toxicity linked to the intraperitoneal chemotherapy.

Our experience had demonstrated that the peak of serum level of cisplatin is reached during the perfusion; until the 4th post-operative (p.o.) day high levels remain and, in 7th p.o. day, the value returns to that before the intervention.

At the light of these considerations, we retain that, for 4 days after the procedure, is necessary to ensure the

hyperhydration, and the infusion of albumin and of fresh frozen plasma, in order to dilute the effective quantity of circulating cisplatin, to increase the proportion of albumin-bound cisplatin, and to maintain a normal blood volume and perfusion.

References

1. Macrì A, Arcoraci V, Belgrano V, et al. Short-term outcome of cytoreductive surgery and hyperthermic intraperitoneal chemotherapy: Preliminary analysis of a multicentre study. *Anticancer Res.* 2014;34(10):5689–5693.
2. Stewart IV JH, Shen P, Levine EA. Intraperitoneal hyperthermic chemotherapy: An evolving paradigm for the treatment of peritoneal surface malignancies. *Expert Rev Anticancer Ther.* 2008;8:1809–1818.
3. Kusamura S, Younan R, Baratti D, et al. Cytoreductive surgery followed by intraperitoneal hyperthermic perfusion: Analysis of morbidity and mortality in 209 peritoneal surface malignancies treated with closed abdomen technique. *Cancer.* 2006;106:1144–1153.
4. Kusamura S, Baratti D, Deraco M. Multidimensional analysis of the learning curve for cytoreductive surgery and hyperthermic intraperitoneal chemotherapy in peritoneal surface malignancies. *Ann Surg.* 2012;255:348–356.
5. Feldman L, Barkun J, Barkun A, Sampalis J, Rosenberg L. Measuring postoperative complications in general surgery patients using an outcomes-based strategy: Comparison with complications presented at morbidity and mortality rounds. *Surgery.* 1997;122:711–719.

Copyright of Renal Failure is the property of Taylor & Francis Ltd and its content may not be copied or emailed to multiple sites or posted to a listserv without the copyright holder's express written permission. However, users may print, download, or email articles for individual use.