Clinical Images

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Bidirectional chemotherapy allowing surgery and HIPEC for malignant peritoneal mesothelioma

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Abstract

Background: This case report aims to describe the impact of the bidirectional chemotherapy (BDC) on resecability for initially unresectable malignant peritoneal mesothelioma (MPM).

Methods: We report a case of 55-year-old male with the diagnosis of initially unresecable MPM. The BDC combined intravenous (IV) chemotherapy (Cisplatin–Pemetrexed) and intra peritoneal (IP) chemotherapy (Cisplatin). The response to chemotherapy was assessed by CT – scan and laparoscopy.

Results: Initial evaluation classed the disease as unresecable with PCI at 39. At the reevaluation, CT – scan and laparoscopy showed a macroscopic response, allowing surgery consisting of cytoreductive surgery and hyperthermic intra peritoneal chemotherapy (Doxorubicin and Cisplatin).

Conclusions: BDC (IV and IP) has promising results and allows to undergo surgery for selected patients with borderline or initially unresectable MPM.

Keywords: bidirectional chemotherapy, cytoreductive surgery, HIPEC, malignant peritoneal mesothelioma

We report a case of 55-year-old male with the diagnosis of malignant peritoneal mesothelioma (MPM). Initial evaluation with CT-scan and laparoscopy reveals unresectable peritoneal carcinomatosis with PCI at 39 with thickened omentum (star), small bowel (2 stars) and parietal peritoneum (dash-arrow) deposit, ascitis (plane-arrow) (Figure 1A, B). Bidirectional chemotherapy (BDC) has been performed after three cycles of intravenous (IV) Cisplatin–Pemetrexed, with intensification combining three cycles of IV Pemetrexed with intraperitoneal (IP) Cisplatin (Figure 2). At reevaluation, PCI was still at 39 with a macroscopic response (Figure 3A, B). The peritoneal disease was thinner allowing a complete CRS with Doxorubicin/Cisplatin based-HIPEC.

BDC allowed selecting patients with initially unresectable MPM to undergo surgery and increase the

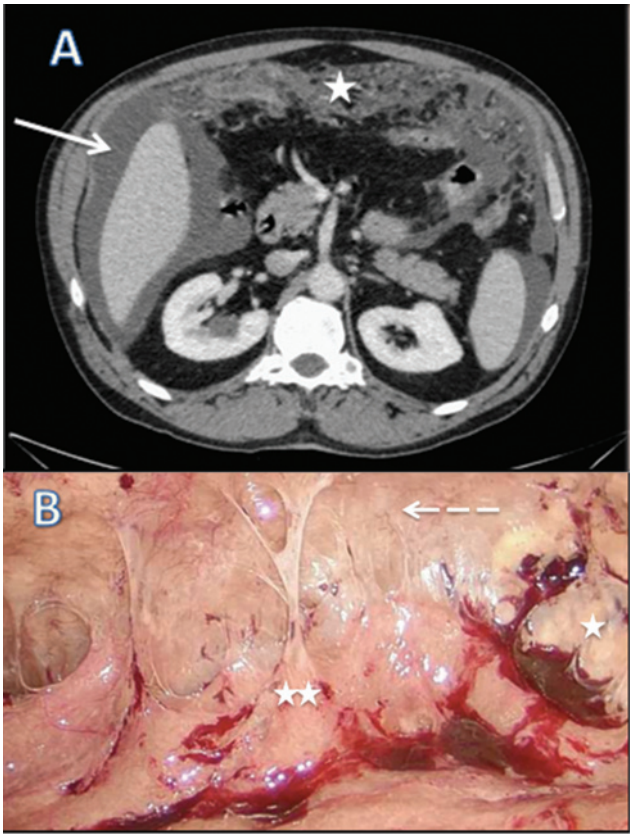

Figure 1: CT scan (A) and laparoscopic evaluation (B) at diagnosis of malignant peritoneal mesothelioma.

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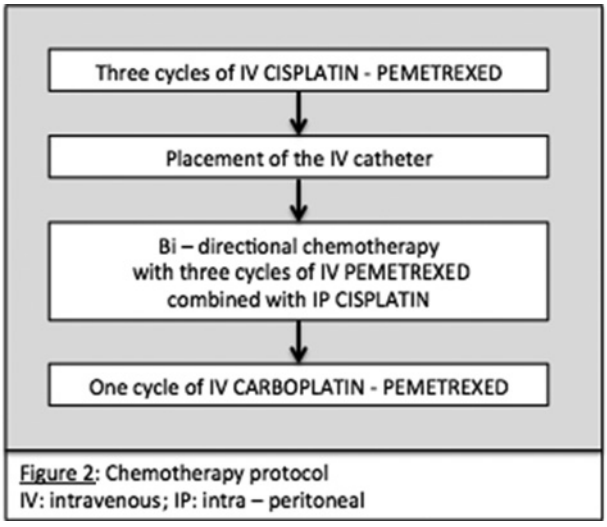

Figure 2: Detailed schedule of chemotherapy.

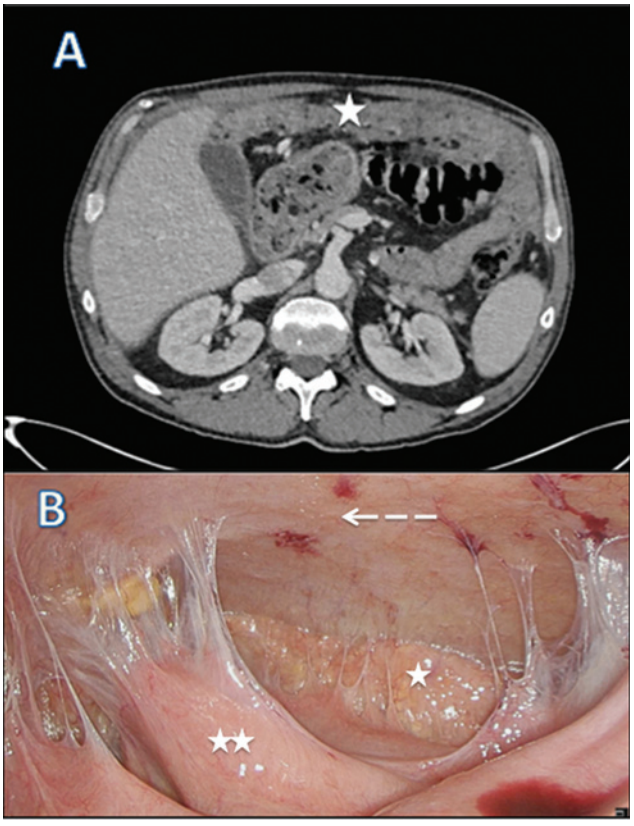

Figure 3: CT scan (A) and laparoscopic evaluation (B) after bi–directional chemotherapy.

overall survival (OS) [1, 2]. New IP delivery with Pressurized IntraPeritoneal Aerosol Chemotherapy (PIPAC) reported promising results in palliative treatment of MMP [3] and is under evaluation to increase OS and secondary resectability of huge MMP (Clinical Trials NCT03875144).

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Ethical considerations: Informed consent given by the patient (Registration number 24005 in RENAPE network, organization for the treatment of rare tumors of the peritoneum).
Competing interests: The funding organization(s) played no role in the study design; in the collection, analysis, and interpretation of data; in the writing of the report; or in the decision to submit the report for publication.

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