

## Glisson's capsule blistering after hyperthermic intraperitoneal chemotherapy

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### ABSTRACT

Hyperthermic intraperitoneal chemotherapy is a treatment option after cytoreduction of certain types of malignancies with peritoneal spread. Blistering of the Glisson's capsule has not been previously reported as a consequence of this treatment modality. Patient do not experiment any associated morbidity.

**Key words.** Hyperthermic chemotherapy. Cytoreduction. Peritoneal carcinomatosis. Side effects. Liver toxicity. Liver damage.

### CASE REPORT

A 51-year old female with systemic lupus erythematosus was diagnosed with high-grade serous ovarian carcinoma stage IIIC in December 2009. Neoadjuvant chemotherapy with carboplatin and taxol was initiated and optimal interval cytoreduction was performed in June 2010. During follow up, asymptomatic elevation of the serum marker (CA-125), lead to the discovery of recurrent disease, predominantly in the right upper quadrant with good response to repeated chemotherapy. Secondary optimal cytoreduction was performed in May 2011 with intraoperative hyperthermic intraperitoneal chemotherapy (HIPEC). Peritoneal carcinomatosis index was 24 and a completeness cytoreduction index of 1 was achieved. Mitomycin 15 mg/m<sup>2</sup> was administered at 42 °C during 75 min.

After the washout of the chemotherapeutic agent from the peritoneal cavity, a prominent 3 cm vesicle was noted in the anterior surface of segment V surrounded by reddish areas in segments IVb, V and VI, simulating a second degree skin burn (Figure 1). This lesion was not present at initial exploration. Preoperative liver function tests were normal:

- Total bilirubin 0.30 mg/dL.
- Direct bilirubin 0.10 mg/dL.
- ALT 10 U/L.
- AST 18 U/L.
- Alkaline phosphatase 93 U/L, and
- Albumin 4.3 g/d.

Postoperative studies showed a mild increase in transaminase levels and hypoalbuminemia as a result of a catabolic state:



**Figure 1.** Liver surface after hyperthermic intraperitoneal chemotherapy. **A.** Blister. **B.** Reddish areas simulating a second degree skin burn.

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- Total bilirubin 0.35 mg/dL.
- Direct bilirubin 0.14 mg/dL.
- ALT 80 U/L.
- AST 127 U/L.
- Alkaline phosphatase 51 U/L, and
- Albumin 2.4 g/dL.

Hepatic damage in patients with burn injuries has been extensively studied,<sup>1</sup> however, the description of direct burn injuries to the liver has not been described in the literature. HIPEC is an alternative for patients with chemosensitive peritoneal carcinomatosis due to colorectal, ovarian or appendiceal tumors in whom complete cytoreduction is not

feasible.<sup>2</sup> Cytotoxic damage is potentiated by moderate hyperthermia. Direct heat damage to intra-abdominal organs associated with this therapy is illustrated in this case, which fortunately led to no morbidity to the patient.

#### REFERENCES

1. Song J, Finnerty CC, Herndon DN, Boehning D, Jeschke MG. Severe burn-induced endoplasmic reticulum stress and hepatic damage in mice. *Mol Med* 2009; 15: 316-20.
2. Helm CW. The role of hyperthermic intraperitoneal chemotherapy (HIPEC) in ovarian cancer. *Oncologist* 2009; 14: 683-94.