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Hyperthermic Intrathoracic Chemotherapy (HITHOC) following decortication for pleural disseminated neoplastic disease: initial experience

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Introduction: Hyperthermic intrathoracic chemotherapy has been used as an adjuvant treatment after surgical resection of patients diagnosed with disseminated pleural neoplastic disease. The most frequent uses refer to malignant pleural mesothelioma and thymic tumors.^(1,2)

Objective: This study aims to describe our initial experience implementing this method of hyperthermic chemotherapy used after cytoreductive surgery.

Methods: This is a retrospective study with a series of cases of patients who underwent pleural decortication followed by HITOC. We collected demographic and pre-operative clinical information and intra-operative and post-operative data. The variables were analyzed and reported with descriptive statistics.

Results: The standard procedure first involved surgical cytoreduction with complete pleural decortication of both visceral and parietal sheets. When macroscopic signs of invasion were identified, the diaphragm and pericardium were resected. Then, we placed the perfusion system with two infusion tubes in the pleura, and the chest was closed. A solution of cisplatin at 100mg/m² and doxorubicin at 50mg is injected at 42°C for 60 minutes, controlled by the infusion machine. Later, the chest was reopened for revision, and standard chest tubes replaced the infusion tubes. Five patients underwent decortication and HITOC in the study period. The median age at the surgery was 54 years. Most cases were female, and the most common diagnosis was malignant pleural mesothelioma. All the patients had induction chemotherapy, and two also had immunotherapy before surgery. There were no significant complications in this series. However, two patients had prolonged air leaks and had to be discharged with a chest tube. Another patient had mild renal dysfunction, and one other had a self-limited cardiac arrhythmia. The median time of chest drainage was eight days, and the median length of hospital stay was ten days.

Conclusion: Hyperthermic intrathoracic chemotherapy is a viable and safe adjuvant treatment for disseminated pleural disease after surgical cytoreduction.

Keywords: Hyperthermic intrathoracic chemotherapy; Malignant pleural mesothelioma; HITHOC; Thymic carcinoma

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