

Robotic Surgery And Intraoperative Intracavitary Chemohyperthermia In Patients With Pleural Mesothelioma And Thymoma Relapses

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Objective: The role of surgery in the combined treatment with hyperthermic intrathoracic chemotherapy (HITHOC) of thymoma recurrences and pleural mesothelioma (MPM) has assumed a controversial role. The aim of the study is to propose future directions in the robotic approach to these pathologies.

Methods: Retrospective study.

9 patients affected by thymoma relapses or MPM who underwent robotic surgery in combination with HITHOC with Cisplatin and Epirubicin, from February 2017 to November 2022. Surgery performed prior to intrathoracic infusion of hightemperature chemotherapy consisted of: lung- diaphragm-pericardium-sparing pleurectomy in six patients and removal of pleural lesions in three patients with thymoma recurrences.

Analyzed parameters:

- Patient characteristics and postoperative outcomes;
- Perioperative results: time of surgery, rate of conversion, post-operative complications (according to Clavien–Dindo classification), chest tube duration, length of hospital stay;
- Oncological results expressed in terms of adjuvant treatments, rate and date of eventual relapses, treatment of the relapses and overall survival.

Results:

- Mean operative time in the pleurectomy group (including docking time and perfusion) was 320 min and 231.7 min in the thymoma patients;
- No intraoperative complications occurred and no renal complications related to infusion were recorded;
- The mean duration of the chest tube was six days;
- The mean length of stay was nine in patients with MPM, while was six in patients with thymoma relapses;
- One conversion to posterior-laterale thoracotomy was reported;
- In the MPM group, two postoperative complications occurred (grade 1 and grade 2), while in the thymoma group, one patient had one postoperative complication (grade 1);
- The adjuvant therapy was administered in 3 patients affected by MPM and in 4 patients with a thymoma relapses;
- 6 patients showed a relapse (2 with MPM and 4 with thymoma);
- After an average follow-up of more than 50 months, all patients are alive;



Conclusions:

Robotic surgery in combination with HITHOC seems to be safe in patients with pleural relapses of thymoma and early-stage MPM

Day before Surgery	Operative Day	1–5 Post-Operative Day
• 500 cc of saline solution plus 40 mg of Pantoprazole plus 8 mg of Dexamethasone • 1000 cc of Ringer's Lactate solution • 500 cc of saline solution plus 20 mg of Furosemide	• 500 cc of saline solution plus 40 mg of Pantoprazole plus 16 mg of Dexamethasone • 500 cc of saline solution plus 20 mEq/L of Magnesium Sulphate (MgSO₄) • 500 cc of saline solution plus 20 mEq/L of Potassium Chloride (KCl) • 500 cc of saline solution plus 20 mg of Furosemide	• 500 cc of saline solution plus 40 mg of Pantoprazole plus 4 mg of Dexamethasone • 1000 cc of Ringer's Lactate solution • 500 cc of saline solution plus 20 mg of Furosemide