

AB052. PS02.16: Minimally invasive treatment by robotic surgery of thymoma B2 stage IVA

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Background: Complete surgical resection is the most effective treatment of thymoma, with survival a rate higher than 94% at 5 years. Locally advanced thymoma can involve the phrenic nerve (PN) due to its location on the mediastinal pleura. However, en bloc resection including the PN may cause severe postoperative complications. Thymoma recurrences are described in 10–30% of the cases and the pleural relapses are the most frequent site (>90%). Despite no standardized treatment for pleural relapses, the surgical resection is commonly accepted. Since 2005, we have been treating thymoma pleural relapses with surgical resection and intraoperative hyperthermic intrathoracic chemotherapy (HITHOC) perfusion. We describe a case report of robot-assisted resection of thymoma adhere to left phrenic nerve, associated to pleural and diaphragm relapses.

Methods: Female, aged 38 years, affected by myasthenia gravis (MG). Computed tomography scan showed anterior mediastinum nodule, sized 40 mm × 20 mm. Patient underwent robotic-assisted extended thymectomy en bloc with thymic nodule, using three arms left-side approach. During the procedure, thymic nodule was identified; the lesion was adherent but not infiltrating PN. Small, previously undetected

by imaging pleural nodes, were identify. Thymic nodule en bloc with thymus gland removal with phrenic nerve sparing was performed. Dissection of nodule from phrenic nerve was performed using a robotic *Maryland* Bipolar Forceps, to avoid nerve injury. Pleural nodes were removed. Pathological analysis showed thymoma B2 for thymic nodule and pleural relapse of thymoma B2 for pleural lesions, staged IVa. After multidisciplinary evaluation, patient underwent robot-assisted resection of the residual left pleural relapses followed by HITHOC. Chest cavity was explored, and a diaphragmatic relapse was identify and removed. After removal of relapses, HITHOC was performed (epirubicin and cisplatinum at 42 °C for 60'). For the following 5 days patient underwent hydration in addition to steroids and protonic pump inhibitors.

Results: Operation time for first procedure was 150', chest drainage duration was 2 days and postoperative stay was 3 days. Operation time for second procedure was 190' (including HITHOC), chest drainage duration was 5 days and postoperative stay was 6 days. No intra, peri- and postoperative complications occurred for both procedures.

Conclusions: Robotic-assisted resection of thymoma with nerve sparing technique and pleural recurrences removal followed by HITHOC can be considered safe and feasible procedures. Minimally-invasive approach was well accepted by the patient, with shorter hospital stay and postoperative recovery. Our preliminary experience shows the feasibility of robotic approach for this kind of lesions. However larger series are needed for consistent long term outcomes.

Keywords: Phrenic nerve sparing; hyperthermic intrathoracic chemotherapy (HITHOC); robotic surgery; thymoma

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