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VATS THYMECTOMY: CURRENT STATUS

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Surgical treatment of thymic epithelial tumors has traditionally been performed via a median sternotomy, but video-assisted thoracoscopic surgery (VATS) has gained prominence in recent years and might be useful for managing small lesions, especially those of stage I–II. However, it might be associated with a high postoperative recurrence rate. VATS thymectomy of stage I–II thymic epithelial tumors has better peri-operative outcomes than thoracotomy in terms of blood loss, surgery time, respiratory complications, and postoperative hospital stay. The R0 resection rate was, however, not different between VATS and transsternal thymectomy. There was also no difference in the improvement rate of myasthenia gravis (MG) as well as in overall survival and disease-free survival rates with an interim observation period of 3–5 years. Therefore, VATS is acceptable for managing non-invasive thymic epithelial tumors. In recent years, robot-assisted thoracic surgery (RATS) has also gained prominence. Reportedly, the peri-operative results were better of RATS than of thoracotomy and VATS. The 5-year overall survival rate was not significantly different from those of thoracotomy and VATS. However, these are retrospective studies and long-term results of more than 10 years have not yet been clarified for both VATS and RATS.

Overall, 180 patients underwent thymectomy at Hiroshima University Hospital between January 2004 and 2020. RATS thymectomy was first performed in 2013 at our hospital. VATS and RATS were applied for patients with stage I–II tumors. We resected the thymoma with the total thymus. In MG cases, extended thymectomy through bilateral VATS was performed. The number of cases were as follows: Open surgery: 65 (MG: 26, 40%), VATS: 86 (MG: 35, 41%), and RATS: 29 (MG: 7, 24%). The median tumor size, surgery time, and blood loss were 60 (range, 22–121) mm, 215 (range, 58–740) minutes, and 235 (range, 10–2150) mL for open surgery; 39 (range, 10–100) mm, 175 (range, 49–480) minutes, and 50 (range, 5–920) mL for VATS; and 38 (range, 16–80) mm, 142 (range, 79–269) minutes, and 10 (range, 5–151) mL for RATS, respectively. Two (2.3%) patents needed conversion to open approach due to invasion of surrounding structures for VATS. No open conversion was needed for RATS. In our experience of VATS and RATS thymectomy for treating stage I–II thymoma, the procedures were safe and feasible.