AB015. OS04.01. Robotic thymectomy in thymic epithelial tumors: a propensity score matching study of 112 consecutive cases

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Background: Robotic thymectomy (RT) has emerged as an alternative to trans-sternal sternotomy (ST) for thymic epithelial tumors (TET). However, oncological safety and outcomes for thymic malignancies has not been reported well due to a low incidence of the disease. We investigated outcomes of robotic total thymectomy for TETs.

Methods: A total of 395 patients underwent total thymectomy for TETs from March, 2000 to April, 2017. Among them, 112 patients underwent RT. Propensity score matching for potential confounders were performed between RT and ST, and 112 patients were included for each group. We compared postoperative outcomes after RT compared to those of ST.

Results: In matched group, thymoma was the main histology in both groups, otherwise thymic carcinoma (RT *vs.* ST; 80% *vs.* 83%; P=0.618). Operative time (RT *vs.* ST; 173±97 *vs.* 176±80 minutes; P=0.767) and postoperative complication rate (RT *vs.* ST; 8% *vs.* 13%; P=0.219) were similar between two groups. There was no postoperative mortality in both groups. The mean length of hospital stay was shorter in RT group (RT *vs.* ST; 4±5 *vs.* 7±8 days; P=0.001). Distribution of pathologic Masaoka-Koga stages was similar between two groups (RT *vs.* ST; 48% *vs.* 42% in Stage I; 39% *vs.* 46% in stage II; 7% *vs.* 9% in stage III; 5% *vs.* 3% in stage IV; P=0.498). R0 resection was achieved in 100% in RT group and 97% in ST group. Combined resections was performed more frequently in ST group without statistical significance [RT *vs.* ST; 19 patients (17%) *vs.* 31 patients (28%); P=0.123]. Five-year survival of each group was 100% in RT and 97.5% in ST, respectively (P=0.307). Five-year freedom from recurrence of each group was 77.6% in RT and 94.1% in ST, respectively (P=0.435).

Conclusions: We demonstrated comparable outcomes of RT in relatively large numbers of thymoma and thymic carcinoma. RT could be applied to thymic malignancies without jeopardizing oncological safety.

Keywords: Survivals; robotic thymectomy; recurrence; propensity score matching

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