

COMPARISON OF SURGICAL COMPLETENESS BETWEEN ROBOTIC TOTAL THYROIDECTOMY BY A GASLESS UNILATERAL AXILLO-BREAST OR AXILLARY APPROACH VERSUS CONVENTIONAL OPEN THYROIDECTOMY

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Background/Purpose: Robotic thyroidectomy is being adopted in many institutes. However, its surgical completeness has not been established. The aim of this study was to investigate the surgical completeness of robotic total thyroidectomy compared with conventional open thyroidectomy.

Methods: We studied 245 patients with papillary thyroid carcinoma who underwent total thyroidectomy and postoperative radioactive iodine (RAI) ablation. Of these, 62 patients underwent robotic thyroidectomy by a gasless unilateral axillo-breast (GUAB) or axillary (GUA) approach, and 183 underwent conventional open thyroidectomy. We analyzed serum TSH-stimulated thyroglobulin (Tg) and RAI uptake at the time of RAI remnant ablation to compare surgical completeness in the two groups.

Results: Tumor characteristics and complications did not differ between the two groups. The mean TSH-stimulated Tg at the first RAI ablation was significantly higher in the robotic group (10.20 ± 9.98 ng/ml) than the open group (3.85 ± 6.79 ng/ml) ($P < 0.001$). In subgroup analysis of the robotic group by the period in which operations took place, TSH-stimulated Tg was significantly higher than in the open group in the 1st (13.28 ± 11.91 ng/ml) and 2nd (10.45 ± 9.30 ng/ml) periods, but there was no significant difference in the 3rd period (6.00 ± 6.26 ng/ml, $P=0.141$). The RAI uptake rate at the first RAI ablation did not differ between the two groups, and TSH-stimulated Tg after RAI ablation was similar.

Discussion & Conclusion: The surgical completeness of robotic total thyroidectomy by a GUAB/GUB approach is comparable to that of open thyroidectomy if performed by experienced robotic thyroid surgeons.