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WELL-DIFFERENTIATED THYROID CANCERS SMALLER THAN 4 CM WITH NEGATIVE LYMPH NODES CAN BE EFFECTIVELY TREATED BY THYROID LOBECTOMY

Nixon IJ, Ganly I, Patel SG, Palmer FL, Whitcher MM, Tuttle RM, Shaha A, Shah JP. **Thyroid lobectomy for treatment of well differentiated intrathyroid malignancy.** Surgery. October 14, 2011 [Epub ahead of print].

SUMMARY

BACKGROUND

There is an increasing incidence of small papillary thyroid cancers worldwide. The current guidelines of the American Thyroid Association recommend total thyroidectomy for any cancer larger than 1 cm (1). This study is a review of the outcome of thyroid surgery at Memorial Sloan-Kettering Cancer Center from 1986 through 2005 comparing lobectomy with total thyroidectomy for well-differentiated thyroid cancer (WDTC).

METHODS

During this time period, 889 patients had thyroidectomy for T1 (<2 cm) or T2 (2 to 4 cm) lesions. Data collected included patient demographics, extent of thyroid surgery, presence of pathologic lymph nodes found at surgery, the presence of gross extrathyroid extension or residual disease after completion of surgery, tumor histology, and size. Based on clinical and pathological features, the patients were classified as being at low, intermediate, or high risk for death. Patients were followed for a median of 99 months to determine outcomes.

RESULTS

Thyroid lobectomy was performed in 382 patients, but 21 of them had immediate completion thyroidectomy, so that the eventual thyroid lobectomy group was 41%; total thyroidectomy was performed in 528 patients (59%). The proportion of patients in the various risk categories was similar in the two groups; 83% had T1 and 17% T2 lesions. The percentage of patients under 45 years of age (54%) was higher in the lobectomy group, but there were no other significant demographic differences or risk factors between the two groups. There was no evidence of residual neck disease or distant metastases. Only 8% had central neck dissection and no lymph nodes contained tumor.

The 10-year survival was 93% in the lobectomy and 91% in the total thyroidectomy group. Disease-specific survival was 98.5% in the lobectomy group and 100% in the total thyroidectomy group. The local recurrence rate was 0% in both groups, and regional recurrence was 0% in the lobectomy group and 0.8% in the total thyroidectomy group. The 10-year distant recurrence rate in patients treated with thyroid lobectomy was 0%, as compared with 3% in the total thyroidectomy group. None of the differences were statistically significant.

CONCLUSIONS

Patients with well-differentiated thyroid tumors smaller than 4 cm and negative lymph nodes can be safely treated by thyroid lobectomy alone.

COMMENTARY

This strong and apparently heretic conclusion requires interpretation. This is a retrospective study. Although there may have been selection of patients for lobectomy, the only apparent difference between risk factors for the two groups is that there were younger patients in the lobectomy group. Also, it is surprising that no pathologic lymph nodes were detected at surgery or in the few cases of central-node dissection. The very low recurrence rate is surprising. Currently, recurrence is usually found by measurement of serum thyroglobulin and ultrasonography. When one lobe remains, the thyroglobulin measurement is not useful for detection of early recurrence.

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An argument in favor of lobectomy is the significant reduction of vocal-cord palsy, a lower incidence of hypoparathyrodism, and a shorter length of hospitalization (2). It is pertinent that lobectomy, usually with nodal dissection, is commonly performed for well-differentiated thyroid cancer (WDTC) in Japan (3). Based on this paper and the fact that good outcomes are commonly found by other centers that perform only lobectomy for WDTC (2,3), it is reasonable to rethink the current practice of treating WDTC by total thyroidectomy, often with central-node dissection, in the absence of abnormal lymph nodes on ultrasonography and computed tomography. This retrospective study should also make us reconsider the practice of performing completion thyroidectomy when there is a follicular variant of papillary thyroid cancer found on lobectomy classified as T1 with no evidence of vascular invasion in a young patient. In the case of follicular thyroid cancer, I would recommend completion thyroidectomy because of the worse prognosis, the possibility of vascular spread, and the need to consider 131-iodine ablation. However, completion thyroidectomy may not be essential when the pathology of the lobectomy shows only minimally invasive follicular carcinoma with no lymphovascular invasion because this lesion has a good prognosis. In other words, one size does not fit all for small WDTC.

— Jerome M. Hershman, MD

References

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