THE PREDICTION FOR MALIGNANCY OF THE CYTOLOGIC DIAGNOSIS "SUSPICIOUS FOR HÜRTHLE-CELL NEOPLASM" IS LOW IN PATIENTS WITH HASHIMOTO'S DISEASE

Roh MH, Jo VY, Stelow EB, Faquin WC, Zou KH, Alexander EK, Larsen PR, Marqusee E, Benson CB, Frates MC, Gawande A, Moore FD Jr, Ciba ED. **The predictive value of the fine-needle aspiration diagnosis "suspicious for a follicular neoplasm, hurthle cell type" in patients with hashimoto thyroiditis.** Am J Clin Pathol 2011;135:139-45.

SUMMARY

BACKGROUND

The Hürthle cell's only cytologic pattern can be seen in Hürthle-cell adenomas, Hürthle-cell carcinomas, multinodular goiter, and Hashimoto's thyroiditis. The predictive value for malignancy of this diagnosis varies from 15% to 45%. The purpose of this study was to determine the positive predictive value of a biopsy diagnosis "suspicious for a follicular neoplasm, Hürthle-cell type" (SFNHCT).

METHODS

At 3 institutions, records of patients who had thyroid fine-needle aspiration (FNA) biopsy from 1992 through 2007 were reviewed to find cases with diagnosis of Hürthle-cell neoplasm. Patients with histologic follow-up after a partial or total thyroidectomy were identified, and a diagnosis of Hashimoto's thyroiditis was established based on antibody tests, ultrasound criteria, or pathology. The positive predictive value (PPV) of the cytologic interpretation of SFNHCT for neoplasia and for malignancy were calculated for patients with and without Hashimoto's disease.

RESULTS

Of the 401 patients identified with FNA cytology suspicious for Hürthle-cell neoplasm, 287 (72%) had thyroid surgery. Only 21 (7%) of the 287 patients had Hashimoto's thyroiditis. In 69 (24%) of the 287 patients, the aspirated nodule was found to be malignant. Hürthle-cell carcinomas were found in 41 patients, papillary thyroid cancer in 26, and poorly differentiated cancers in 2. The PPV for malignancy of the cytologic diagnosis of SFNHCT in the non-Hashimoto's group was 25%, but in the Hashimoto's group, it was only 9.5%; the difference did not reach statistical significance.

CONCLUSIONS

Although the lower rate of malignancy in patients with Hashimoto's disease was not statistically different from that in patients with Hashimoto's disease, consideration should be given to classifying the Hürthle-cell cytology in patients with Hashimoto's as atypia of undetermined significance.

COMMENTARY

This is an excellent study that used the resources and clinical material from three prominent institutions. Nevertheless, the relatively small number of patients with Hashimoto's disease who underwent surgery is probably the basis for the lack of statistical significance in showing that these patients were less likely to have a malignant nodule when the cytologic diagnosis was SFNHCT. The clinicians at these institutions may have been reluctant to send patients with nodules with this cytology to surgery when there was evidence that the patient had Hashimoto's thyroiditis. The malignancy rate of 9.5% in the 21 patients with Hashimoto's disease is similar to that reported in Japanese study of nodules in Hashimoto's patients reviewed in Clinical Thyroidology last month (1); 40 (6.3%) of 638 patients were found to have a cancer. In the current study, the majority of cancers were Hürthle-cell cancers, as predicted by the SFNHCT, but in the Japanese study, the cancers were papillary in 38 and lymphoma in 2. However, this comparison can be faulted because the question asked by the current American study concerns the predictive value of the

cytologic diagnosis of SFNHCT. I think that the clinician faced with this cytologic diagnosis must use all of the other factors concerning the nodule before making a decision for surgery versus watchful waiting. In the patient with Hashimoto's disease and a small nodule, I would wait rather than send the patient to surgery.

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REFERENCE

1. Mukasa K, Noh JY, Kunii Y, Matsumoto M, Sato S, Yasuda S, Suzuki M, Ito K, Ito K. Prevalence of malignant tumors and adenomatous lesions detected by ultrasonographic screening in patients with autoimmune thyroid diseases. Thyroid 2011;21:37-41. Epub October 9, 2010.