

Urticaria May Occur as The First Clinical Presentation of Thyroid Carcinoma

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ABSTRACT

Chronic urticaria (CU) is a common disease in which most cases were considered to be idiopathic. This report presents two patients with chronic urticaria who diagnosed papillary thyroid carcinoma. A 50-year-old woman and a 38-year-old woman were admitted to hospital with histories of chronic urticaria on an individual basis. Laboratory results and allergy tests resulted negative. Ultrasound examinations revealed a heterogeneous solid node on the thyroid gland. Fine-needle aspiration biopsies resulted with papillary carcinoma of thyroid.

They both underwent total thyroidectomy and completely recovered from their urticarial lesions three and four days later, respectively. Several cases of thyroid malignancies associated with urticaria have been published in the literature. However, the exact mechanisms cause to these disorders concomitantly have not been known yet. These cases give rise to thought a presence of cause and effect relationship between CU and thyroid malignancies. These report may highlite to evaluation of some CU patients. Eventhough the laboratory findings are normal, examination of thyroid gland must be done carefully especially in treatment resistant CU patients.

Keywords: Thyroid carcinoma, urticaria

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INTRODUCTION

Chronic urticaria (CU) is defined as urticaria lasts a period of six-weeks or longer. Chronic urticaria is a common disease in which most cases were considered to be idiopathic, but it is known that various autoimmune disorders may be associated with CU (1). Lately, although data are conflicting there is an increasing with CU and cancer association. This report presents two patients with chronic urticaria who diagnosed papillary thyroid carcinoma.

CASE REPORT

Case 1

A 50-year-old woman admitted to our out-patient clinic with a one-year history of urticarial rash on parts of her body and upper extremities.. Her urticarial attacks usually occurred one in a week and persisted for up to two to three days despite oral and parenteral antiallergic therapies. Routine laboratory examinations to evaluate aetiology of the chronic urticaria, including complete blood count, thyroid function tests, thyroid auto-antibodies, erythrocyte sedimentation rate, hepatitis markers, liver and renal function tests, urinalysis, stool analysis for parasite ova and total IgE were within the normal ranges. Skin prick testing was negative for foods commonly consumed in Turkey. Autologous serum skin test was negative. Thyroid gland of the patient was found grade 2 hypertrophic on physical examination according to classification of goitre size determined by palpation (2). Thyroid ultrasonography revealed a heterogeneous solid nodule with a diameter 1 cm on the left thyroid lobe and a lymphadenopathy with a diameter 8 mm contain microcalcifications nearby left thyroid lobe. Fine-needle aspiration biopsies resulted with papillary carcinoma of thyroid and metastases of papillary carcinoma of thyroid. She underwent total thyroidectomy operation and she completely recovered from her urticarial lesions three days later. She has not any urticarial attack after the thyroid surgery.

Case 2

A 38-year-old woman presented with 10-year history of chronic urticaria. She had different antiallergic therapies but yielded no improvement. Four years ago, she was performed a thyroid biopsy because of a thyroid nodule and then malignancy was excluded. Until this time she never checked her thyroid gland again. She was evaluated regarding to CU aetiology. Routine laboratory examinations were within the normal range and skin prick test for foods commonly consumed in Turkey and autologous serum skin tests were negative.

A hypoechoic solid nodule with a diameter 1.5 cm on the right thyroid lobe was found on ultrasound examination of the neck. Fine-needle aspiration biopsy result was resulted with papillary carcinoma of thyroid and she underwent total thyroidectomy operation immediately. Her urticarial lesions disappeared on the fourth day of postoperative period. She was also symptom free without any anti allergic medication.

DISCUSSION

On the basis of numerous epidemiological studies, it is well known that immune system has a great role on the oncogenesis (3, 4). However, the mechanism that dysregulated immune system how influences the cancer is still a dilemma. The association between allergic disorders and cancer development has been examined for a long time. Many studies identified conflicting results about association between a history of allergy and cancer occurrence (3, 4).

Immune surveillance theory which was first mentioned a century ago suggests that immune system's ability to destroy cancer cells may be corrupted with a history of atopy and allergy (3). On the other hand the hyperactivated immune system may prevent cancer occurrence *via* increased histamine, IL-4 and IL-10 cytokines' antitumor effects (5, 6).

Some cancers including lung, nasal cavity, prostate, bladder cancer, leukaemia, non-Hodgkin's lymphoma, breast cancer, colorectal cancer and melanoma associated with allergic rhinitis or asthma (3, 5). Conversely, atopic patients have a lower risk of glioma and some skin cancers (7). Some cases with thyroid cancers accompanying to CU have previously been reported (8, 9). The exact mechanisms cause or progression to these disorders concomitantly has not been known yet. It was reported that there is a link between chronic urticaria and autoimmune thyroid disease, and chronic lymphocytic thyroiditis (Hashimoto's thyroiditis) is a risk factor of papillary thyroid carcinoma (10). But there is not a confirmed autoimmune thyroid disease regarding to our patients.

All the patients' CU lesions and symptoms were disappeared after total thyroidectomy and this outcome give rise to thought an association between CU and thyroid malignancies. However, further studies are needed to clarify if this concomitantly appearance is a coincidence or bound to cause and effect relationship. Although the laboratory findings including thyroid functions and thyroid autoantibodies are normal and the patient does not have any symptom of a thyroid disorder, examination of thyroid gland and nearby tissues must be done carefully *via* both physical examination and ultrasound imaging especially in treatment resistant CU patients.

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Declaration of interest

The authors declare that there is no conflict of interest that could be perceived as prejudicing the impartiality of the research reported.

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Patient consent

Informed written consent was obtained from the patient for the publication of this case report.

Author contribution statement

Fevzi Demirel was responsible for writing the manuscript, researching the discussion and reviewing and editing the manuscript; Ozgur Kartal, Mustafa Gulec wrote, reviewed and edited the manuscript; Sait Yesillik, Abdullah Baysan helped in biochemical analyses; Engin Alagoz performed diagnostic procedures about thyroid disease and Ugur Musabak, Osman Sener are the senior author and was responsible for supervision, obtaining patient's consent and reviewing and editing the final manuscript.

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