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Journal
Dermatology Online Journal, 20(5)

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Publication Date
2014

DOI
10.5070/D3205022644

Volume 20 Number 5
May 2014

Letter

Nodular goiter with thyroid antibodies in chronic idiopathic urticaria

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Dermatology Online Journal 20 (5): 16

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Abstract

We report a case of chronic idiopathic urticaria associated with nodular goiter and Graves disease. The urticaria resolved with normalization of the thyroid function.

Key words: Urticaria, Graves disease, Thyroid antibodies

Case synopsis

A 27-year-old man with chronic urticaria for seven years was evaluated in the endocrinology clinic for thyrotoxicosis. A few weeks earlier, he was seen in an urgent care clinic for severe urticaria associated with palpitations and tremors. The TSH was 0.0 uIU/mL (0.3 – 4.8) on that visit. He did not have thyroid function tests prior to that visit.

Seven years ago, he was diagnosed with chronic idiopathic urticaria. It was associated with intense pruritus. Furthermore, he had irritability, insomnia, heat intolerance, excessive perspiration, and mood swings for many years. The urticaria did not respond to oral antihistaminic agents. He had a partial response to oral corticosteroids and required corticosteroids injections on a few occasions. The response to corticosteroids favored autoimmune etiology. The urticaria was usually alleviated with slow tapering doses of dexamethasone over 2-3 months. On several occasions, the urticaria relapsed despite treatment with dexamethasone. Over the years, the patient had learned to adjust the dexamethasone to minimize the symptoms. He had recurrent urticaria requiring dexamethasone about seven to eight months of the year. His weight waxed and waned during those years owing to glucocorticoid use. He lost his employment because of the unrelenting urticaria.

His father had a history of hyperthyroidism, which was treated with radioiodine, and his maternal grandmother had primary hypothyroidism. He had no recent exposure to iodinated contrast and had no obstructive symptoms. On physical examination, his heart rate was 110; his thyroid was enlarged, firm, nodular, and non-tender; he had no palpable cervical adenopathy.

The thyroid function testing revealed TSH of 0.031 uIU/mL (0.25 – 5.5) and free T4 of 3.66 ng/dL (0.58 – 1.64). Thyroid scan was inhomogeneous with multiple nodules consistent with toxic multinodular goiter and uptake was 62.6% (5-15%) at 4 hours and 64% (5 -15%) at 24 hours. He was treated with 31.1 mCi of I131 radioiodine therapy. He achieved euthyroid status in the next few

weeks, followed by hypothyroidism and was subsequently treated with thyroid hormone replacement. A few weeks after radioiodine treatment, there was a complete remission of urticaria and a resultant discontinuation of dexamethasone. Nine months after I131 treatment his TSH receptor antibodies were 65 % (0 - 9 %) and thyroid stimulating immunoglobulins (TSI) were 187 % (0 – 129 %). He had no further recurrence of his urticaria in the next 2 years. The patient was relieved that his urticaria had remitted because it had been disabling for all these years. He is now on levothyroxine for acquired hypothyroidism.

Discussion

Chronic urticaria is defined as the occurrence of continuous, or intermittent hives continuously for at least six weeks; the lesions are generally pruritic [1]. It is often associated with autoimmune thyroid disease including hypothyroidism and hyperthyroidism [2,3,4]. The underlying mechanism is not well understood but is likely autoimmune in nature [5,6]. The estimated prevalence of coexisting Graves disease and chronic idiopathic urticaria is 1.2 – 4% [6]. In our case, the urticaria was secondary to hyperthyroidism, which was likely owing to the coexistence of functioning nodular goiter and Graves disease. The improvement in chronic urticaria with normalization of thyroid hormone level despite the presence of antibodies could partly be related to correction of the sweating, heat intolerance, and hypermetabolic state [2, 3, 6]. Pruritus as an unusual presenting feature of thyrotoxicosis has been reported. Physicians should consider hyperthyroidism in chronic urticaria, especially if the urticaria is refractory to standard therapy, there are symptoms suggestive of thyroid dysfunction, or there is a family history of thyroid disease. The urticaria may, in some cases, be ameliorated with treatment of hyperthyroidism [4].

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