

A Bizarre Complication of Levothyroxine Therapy

Sir,

We describe the case of a 49-year-old gentleman who presented with a generalized urticarial rash with wheals, itching, and angioedema 6 weeks after the initiation of levothyroxine (Brand-1) tablets for hypothyroidism. He was diagnosed with hypothyroidism while being evaluated for carpal tunnel syndrome. His thyroid-stimulating hormone (TSH) level before initiation of therapy was 170.9 mIU/L. There was no history of allergy to drugs, foods, or any other medications before the development of the present allergic reaction. There was no history to suggest chronic urticaria. He discontinued the medication by himself following which his rash subsided with complete resolution of urticarial lesions in 3 weeks. Clinical examination at the time of presentation was unremarkable. On follow-up after stopping the medication, his TSH was 28.3 mIU/L, T4 was 4.4 mcg/dL, and free T4 was 1.1 ng/dL. The titers of antithyroglobulin and antithyroid peroxidase were 1226 IU/mL and 705 IU/mL, respectively. Immunoglobulin E (IgE) was 102.2 U/mL (N: 0–378). Besides IgE, antinuclear antibody (ANA), C3, and C4 were done, these were normal. Anti-C1q antibody testing was also negative. He was started on levothyroxine (Brand-2) 12.5 mcg and on the same day developed urticarial rash [Figure 1] that subsided completely after stopping the medication. Subsequently, he was initiated on 12.5 mcg of levothyroxine (Brand-3), which he tolerated well, without the development of allergic reactions. It was decided to gradually increase the dosage of levothyroxine over the next 4 weeks.

The annual incidence of hypothyroidism is 1 in 10,000 in males and 1–2/1000 in females.^[1] Levothyroxine supplementation is the routinely accepted treatment for hypothyroidism worldwide.^[2] There are previous cases of thyroxin allergy that have been reported.^[3,4] Allergic reactions to thyroxin may be due to its active ingredient or other chemical excipients. The active ingredient in thyroxin tablets is levothyroxine sodium. In addition to this, there are several inactive ingredients that vary from brand to brand. A few of the common inactive ingredients are microcrystalline cellulose, maize starch, purified talc, colloidal anhydrous silica, magnesium stearate, lactose, and acacia.^[5] Our patient did not develop an allergy to Brand-3 of levothyroxine and hence the probable causative agent could be one of the inactive excipients. Drug desensitization under supervision



Figure 1: Urticarial rashes over the trunk following levothyroxine treatment

with gradual up-titration of the dose may be done as a treatment option in patients who develop recurrent allergic reactions to different brands of thyroxine.^[6]

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Conflicts of interest

There are no conflicts of interest.

Aneez Joseph, Kripa Elizabeth Cherian, Nitin Kapoor, Thomas V. Paul

Department of Endocrinology, Christian Medical College and Hospital, Vellore, Tamil Nadu, India

Address for correspondence:

Dr. Thomas V. Paul,
Department of Endocrinology, Diabetes and Metabolism, Christian Medical College and Hospital, Vellore, Tamil Nadu, India.
E-mail: thomasvpaul@yahoo.com

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