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Case Report

Chronic urticaria with thyroid auto-antibodies linked to urticarial vasculitis

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ABSTRACT

Chronic urticaria is a common disorder of unknown origin, which is often associated with normal routine laboratory values and no evidence of systemic disease. Cutaneous vasculitis is one of the rare presentation of chronic urticaria. We reported a 13-year-old female child, who presented to us with tender urticarial wheals all over the body, who on further evaluation was found to have positive anti-thyroid peroxidase antibodies and was diagnosed to have urticarial vasculitis.

Keywords: Chronic urticaria, Anti-thyroid peroxidase antibodies, Urticarial vasculitis

INTRODUCTION

Urticaria lasting for more than 6 weeks is called as chronic urticaria.[1] Presence of tender wheals in chronic urticaria indicates underlying cutaneous vasculitis. Chronic urticaria, which is not related to allergic reaction, may be associated with the presence of antithyroid antibodies, especially antithyroid peroxidase (TPO) antibodies.[1] Around 12% cases of chronic urticaria will have elevated anti thyroid antibodies.[2] Exact role of antibodies in the pathogenesis of cutaneous vasculitis is not known, it may reflect the probability of developing auto-antibodies.[2]

CASE REPORT

A 13-year-old female child was brought to the pediatric OPD, with complaints of wheals all over the body since previous night. There was no history of any drug intake, allergen exposure or any insect bite. The child had 4 such episodes in the past 3 months, during which the child received symptomatic treatment. There was no significant family history. The child was developmentally normal and was immunized to date. On arrival to OPD, the child was vitally stable, tender wheals were present all over the body including the face, upper limb, lower limb, and trunk. Swelling of lips was also noted. Systemic examination was within normal limits. The child received IV antihistamine and steroids, as a part of symptomatic treatment and the child improved. Blood investigations done showed normal complete hemogram with elevated ESR, elevated IgE levels (542.82 kUl/l), anti-TPO level was elevated (246.7 IU/ml) with a normal thyroid function test. With the above data, the child was diagnosed to have chronic urticaria with cutaneous vasculitis and was started on H1 antihistamine which was continued for 4 weeks. The child had another episode during the treatment, so the dose of H1 antihistamine was increased and H2 antihistamine was added. Treatment was continued for 2 weeks. No further episodes were noted. The child is under follow up.

Figure 1: Tender urticarial lesions over the anterior abdominal wall.

Figure 2: Tender urticarial lesions over the volar aspect of the left forearm.

DISCUSSION

Urticaria is transient, pruritic, eythematous, raised wheals that may become tense and painful.[2] Depending upon the duration, urticaria can be acute (<6 week) or chronic (>6 week). Chronic urticaria can be either chronic spontaneous urticaria or chronic inducible urticaria.[2] Cutaneous vasculitis is a rare entity, which is estimated to be 5% of the estimated prevalence of chronic urticaria.[3] Skin examination reveals infiltrative gives with palpably elevated borders and are usually round shaped. Biopsy of the lesion shows non-necrotizing, perivascular, mononuclear cellular infiltrate.[2] Presence of anti-thyroid antibodies either to thyroglobulin or to peroxidase is a feature of cutaneous vasculitis of chronic urticaria. Only few patients show clinical improvement with thyroid replacement therapy. Around 35-40% of patients have a positive autologous serum skin test and 5-10% have anti IgE antibodies.[2] Chronic urticaria requires treatment with non-sedating or low sedating anti histamines, usually higher than the usual recommended doses are needed.[2] H2 antihistamines and leukotriene inhibitors are add-on drugs, if symptoms persist. If hives persist inspite of maximal receptor blockade, a brief course of oral steroids can be tried, but long-term steroid therapy is not recommended.[2] FDA recommends omalizumab for the treatment of chronic urticaria in children >12 year.[1,2] Other non-FDA approved drugs include cyclosporine, hydroxychloroquine, sulfasalazine, intravenous immunoglobulin and plasmapheresis.

A systematic review by Kolkhir et al concluded that chronic spontaneous urticaria and autoimmune thyroid diseases were closely linked in many ways but the reason for patients with chronic spontaneous urticaria having higher rates of thyroid autoimmunity than those in the general population remained unclear.[4] Another study conducted by Kim et al found that out of 184 patients with chronic urticaria, 23.4% had positive anti-thyroid antibodies and 14.1% with thyroid dysfunction, but only 2 patients showed improvement with thyroid replacement therapy.[5] A systematic review by Cornillier et al on chronic spontaneous urticaria in children found that out of 633 children with chronic spontaneous urticaria 6.4% had thyroid abnormalities.[6] A study conducted by Levy et al over a period of 7.5 years in 187 children with chronic urticaria concluded that the children with chronic urticaria should be screened periodically for thyroxine, TSH, and antithyroid antibodies, as thyroid autoimmunity and hypothyroidism may appear several years after onset of the urticaria.[7] A case report published by Kumar et al on chronic urticaria and angioedema in an 8 year old child with Hashimoto's thyroiditis, emphasized thyroxin supplementation in children with chronic urticaria and Hashimoto's thyroiditis for symptomatic improvement.[8] A case control study on association between chronic spontaneous urticaria and thyroid autoimmunity by Mariyath et al concluded that though there was a slight increase in the anti-thyroid peroxidase antibodies levels and thyroid dysfunction in patients with chronic spontaneous urticaria than controls, it was statistically insignificant.[9]

CONCLUSION

Cutaneous vasculitis in chronic urticaria though a known entity, is rare. Any chronic urticaria with tender hives requires evaluation for cutaneous vasculitis. Though anti thyroid antibodies are found in a few cases for chronic urticaria, routine thyroid replacement therapy is not recommended. Sequential blockage of H1 and H2 receptors is the mainstay of treatment. Usually higher doses of anti-histamines are recommended. Chronic spontaneous urticaria has good prognosis and resolves completely in few years.

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