

Cold urticaria, the uncommon physical urticaria: Case report

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Dear Editor,

Cold urticaria, or cold contact urticaria is a common form of physical urticaria characterized by rash and swelling that occurs as a result of the oscillation of histamine and other proinflammatory mediators from mast cells following contact of the skin with the cold objects, cold liquids, and cold air (1). Both sexes are affected with similar frequency in most studies. Symptoms generally occur a few minutes after contact with the cold and they are limited to the area of exposure to the cold. However, if the area of exposure to cold is wide, it can cause systemic reactions (1). The incidence of cold urticaria is predicted to be 0.05%.

Its incidence among physical urticaria varies between 5.2% and 33.8% depending on the geographical characteristics (2). Cold urticaria diagnosis can be made with ice application to the front side of the fore arm for five minutes (3). 10 minutes after the application, an itchy, palpable rash and a swelling with obvious borders in the area where ice is applied means that the test is positive (1). In the treatment of cold urticaria, antihistaminic use is the most common and most effective symptomatic treatment which decreases and prevents swelling, rash and itching symptoms following exposure to cold (4,5). Seventeen year old male patient referred to our polyclinic with a complaint of recurrent swelling, itching and rash on the hands and lips (Figure 1) following exposure to cold. The patient's complaints started with swelling, rash and itching on the face, hands and feet a year ago. In the physical examination of the patient, system examinations were natural. Patients had no history of atopic disease. Laboratory findings were as follows: WBC:8,400/mm³, Hb:13,7 gr/dl, Plt:372.000/mm³, total eosinophile count: 300/mm³, sedimentation: 2 mm/hour, total Ig E 137 IU/ml, C3:112 mg/dl, C4:12.4 mg/dl, Hepatitis markers, ANA and

Anti-dsDNA were negative. Ice cube test was conducted on the patient. Ice was applied to the front side of the patient's fore arm for five minutes. Upon the development of swelling, rash and itching in the area where ice was applied, three minutes after the ice was removed, the patient was diagnosed with cold urticaria (Figure 2). The patient was explained the precautions to prevent cold and non-sedative H1 blocker classical dose was started, since the patient did not have anaphylaxis and systemic reaction history, adrenalin auto injector was not prescribed and in the follow-up, the patient's complaints were found to regress.

Cold urticaria is grouped in two as primary and secondary and more than 90% is idiopathic, while most of the rest develops secondary to cryoglobulinemia (6,7). Viral or bacterial infections including borreliosis, hepatitis, infectious mononucleosis, human immunodeficiency virus (HIV) can cause cold urticaria. Cold urticaria cases which developed as a result of helicobacter pylori colonization, acute toxoplasmosis and parasite infections have also been reported (6). Cold urticaria diagnosis is made with ice-cube test. After ice is applied to the front side of the forearm for five minutes, 10 minutes is waited for the part ice is applied to warm up again. If swelling occurs around the area ice is applied, the test is accepted to be positive. If no swelling occurs, ice-cube test is applied to the other forearm, if it is found as negative again, ice-cube test is accepted as negative (2,8). In our case, the ice-cube test conducted was positive.

Patients should be counselled about potential serious systemic symptoms and the importance of wearing appropriate cold-weather clothing. Avoidance of cold water activities and overexposure to cold weather also should be emphasized. Treatment by stage is recommended in the treatment of cold urticaria. First, non-sedative

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H1 blocker is given in classical dose. If the symptoms cannot be taken under control, the dose of the existing antihistaminic can be increased up to 4 times before moving on to a different antihistaminic. Patients who have a history of anaphylaxis or systemic reaction should be given emergency kits which include adrenalin autoinjector, oral corticosteroid and antihistaminic (9). In refractory cases of cold urticaria, an H2 antihistamine (eg, ranitidine) can be used in conjunction with H1 antihistamines (10). Omalizumab, an IgE-mediated treatment, also has been shown to be safe and effective in patients with recalcitrant physical urticaria, including cold urticarial (11). We started with non-sedative H1 blocker classical dose to our case, adrenalin autoinjector was not prescribed since the patient did not have anaphylaxis and systemic reaction history.

Cold urticaria is a self-limited disorder in many patients. Remission, or at least improvement of symptoms, occurs in 50 percent of patients within five to six years (6).

As a conclusion, cold urticaria is characterized with urticaria development in places exposed to cold. If the exposed part is wide, symptoms can progress to anaphylaxis from generalized urticaria. For this reason, patients diagnosed with cold urticaria should avoid the cold and total body surface should not be exposed to cold since it can advance to anaphylaxis.

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