ASTHMA ALLERGY IMMUNOLOGY
ASTIM ALLERJİ İMMÜNOLOJİ

doi: 10.21911/aai.2024.457
Asthma Allergy Immunol 2024;22:197-200

CASE REPORT

Received: 23.10.2023 • Accepted: 21.03.2024
Online Published: 23.05.2024

Kimura Disease as a Rare Cause of Eosinophil and Total IgE Elevation

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ABSTRACT

Kimura disease (KD) is a rare, chronic, inflammatory disorder of unknown etiology characterized by the development of subcutaneous lymphoid masses, usually in the head and neck region; regional lymphadenopathy; peripheral eosinophilia; and elevated levels of serum IgE. KD has been described in China and Japan as "eosinophilic hyperplastic lymphogranuloma" or "atypical granulation associated with hyperplastic abnormalities in the lymphoid tissue". The precise prevalence and incidence and the pathogenesis of KD are unknown. Trauma, infection, an IgE-mediated hypersensitivity reaction, or autoimmune processes have been postulated as possible causes. In this article, we aimed to present a patient who was investigated with elevated serum total IgE and eosinophils and diagnosed as Kimura disease in the light of the current literature.

Keywords: Kimura disease, eosinophilic hyperplastic lymphogranuloma

INTRODUCTION

Kimura disease (KD) is a rare inflammatory disease of unknown etiology, which often presents with unilateral painless masses in the head and neck region and regional lymphadenopathy. The classic triad is characterized by painless subcutaneous nodules in the head and neck region, peripheral blood and tissue eosinophilia, and elevated total IgE (1). The true prevalence of KD is unknown (2). It is more common in young-middle-aged, male and Asian people (3). It progresses with lymphoid follicles, fibrosis and vascular proliferation predominant from lymphocytes and eosinophils in the subcutaneous tissue (4). There may be an increase in parotid or salivary gland volume. Rarely, in addition to glomerulonephritis, the eyelids, eyes, oral cavity, extremities, and chest may also be involved in some patients (5). Although the etiology of the disease is largely unknown, allergic reaction and immune system changes have been suggested as the primary etiopathological pathways. Persistent antigenic stimulation of the immune system following arthropod bites or parasites or candida infection was thought to be the cause (6). Recent studies have shown that it may be due to the interaction between type 1 and type 2 T helper cells and even clonal T cell proliferation (7,8). The diagnosis is made histopathologically by excision of the lymph node. In the treatment, surgical resection of the lymph node, systemic and local corticosteroid therapy, radiotherapy and chemotherapy can be applied alone or in combination (9). We aimed to present our case, who applied to our clinic with itchy red skin lesions, eosinophilia, and total IgE elevation, and was diagnosed with KD as a result of histopathological evaluation, in the light of the literature because it is a rare disease.

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CASE

A 42-year-old male patient presented to our clinic with the complaints of itching all over the body and rashes on the extremities and trunk, which had been increasing for the last 3 months (Figure 1). On physical examination, there were widespread, red, nodular lesions on the skin, and a painless palpable mass lesion in the right inguinal region. In blood tests, liver and kidney function tests were within normal limits, total IgE was 1256 IU/mL, and peripheral blood eosinophil level was 3300 cells/μl (22.5%) in the hemogram. Sedimentation was 13 mm/s, RF: 9.13 IU/mL, and HBs Ag, Anti HCV, Anti HIV, VDRL-RPR, TPHA, and Borrelia IgM and IgG were negative. The serum tryptase level was within the normal range. The ANA-ANCA-ENA panel was negative, and urinalysis was normal. In the skin prick test, the respiratory panel was found to be negative. In the peripheral blood smear, the values were neutrophils 55%, lymphocytes 18%, monocytes 4%, and eosinophils 23%, and no atypical cells were observed. No parasites were found in stool microscopy examined twice. All other autoimmune diseases, especially scleroderma, were excluded in the patient who was consulted with rheumatology. When the bone marrow biopsy of the patient who was evaluated by hematology with the preliminary diagnosis of lymphoproliferative disease was examined; 7.8% of the cells in the bone marrow aspiration sample were lymphocytes. Of all cells, 4.2% were T lymphocytes, 1.6% were B lymphocytes and 1.6% were Natural Killer (NK) cells, and no lymphoproliferative disease was detected. No pathology was observed in the whole abdomen ultrasonography (USG), except for grade 1 hepatosteatosis. On neck USG, lymphadenopathy was observed in the bilateral cervical chains, the largest on the right, with a size of 12x6 mm. In the superficial tissue USG performed for the inguinal region, lymphadenopathy of 4.5x2.5x2 cm was detected on the right side. There were parenchymal sequela changes in thorax computed tomography (CT), without any mediastinal lymphadenopathy or additional pathological findings. In the punch biopsy taken from the patient's existing skin lesions; mild acanthosis and inflammatory reaction consisting of abundant eosinophils around the vessels in the reticular dermis was observed. In the excisional biopsy of the inguinal lymph node; enlargement of follicular structures, prominence in the germinal center, and eosinophils completely covering the follicular area were observed. Atypical staining suggestive of malignancy was not detected in the immunostochemical examination, and Kimura's lymphadenopathy was considered as the pathological diagnosis. The patient was diagnosed with KD with clinical, laboratory and histopathological findings. In the treatment, H1 blocker, montelukast and methylprednisolone 48 mg orally (p.o), were started first, and the methylprednisolone dose was gradu-

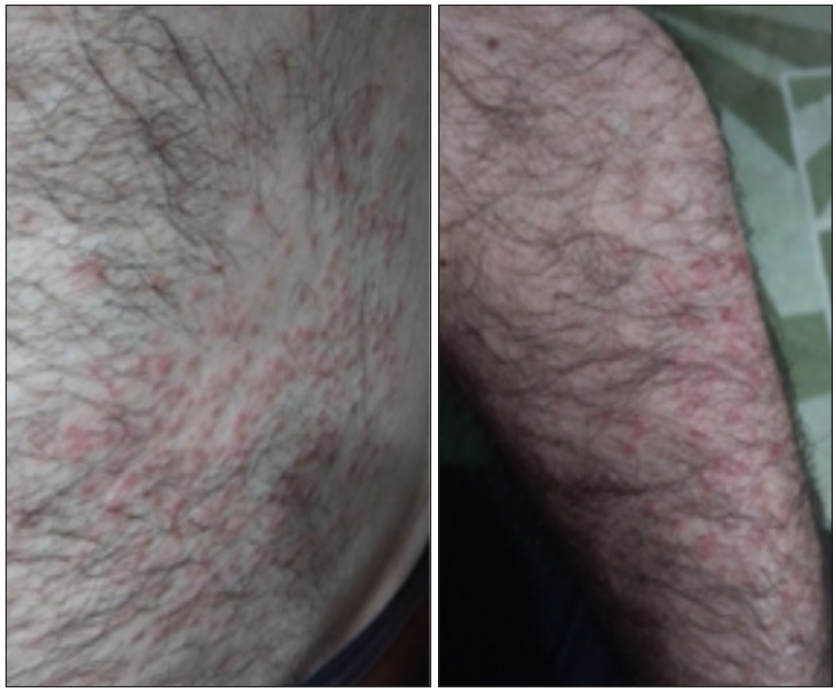

Figure 1. The rashes on the body at the initial presentation of the patient.

ally tapered to 4 mg. In the 6th month of systemic steroid treatment, the steroid was discontinued due to a fracture in the right ankle. Dapsone 50 mg tablet (tb) 1*1 (p.o) was started. However, Dapsone was discontinued due to the recurrence of the itchy and reddish skin lesions, and sulfasalazine 500 mg tb 1*1 (p.o) was started.

Simultaneous psoralen-UVA (PUVA) was administered for approximately 6 months, until the complaints were completely regressed. The patient, who was followed for 2 years without treatment, did not show any clinical symptoms. In blood tests, the total IgE level was 160 IU/ml, while the peripheral blood eosinophil level was 470 cells/µl (2%).

DISCUSSION

KD is a benign, chronic inflammatory disease of unknown etiology. It was first reported by Kim and Szeto in 1937 and named eosinophilic hyperplastic lymphogranuloma (10). The disease, which was described in detail by Kimura in 1948, was reported to be more common in young-middle-aged men and the Asian race (1). Although the disease is benign, recurrent cases have also been reported after excision (2,8). Malignant transformation has not been reported (3). While lymphadenopathy was expected in the cervical region in patients, both inguinal and cervical lymphadenopathies were presen tin our patient, the largest of which was in the inguinal region. In the case series of Chen et al., inguinal lymphadenopathy was detected in only 3 of 21 cases. Again in this case series, peripheral blood eosinophilia was found in 16 cases similar to our case (11). In our patient, the peripheral blood eosinophilia and total IgE elevation were similar to the literature (9,11). The differential diagnosis of KD includes eosinophilic angiolymphoid hyperplasia (ALHE), atopic dermatitis, eosinophilic parasitic diseases, lymphoma, angioimmunoblastic lymphadenopathy, and chronic eosinophilic leukemia. Histopathological evaluation is important, especially in the differentiation of angiolymphoid hyperplasia with eosinophilia (3,9). Abundant lymphocytes, eosinophils, and plasma cells, always with lymphoid follicles are present in the histopathology of KD, while angiolymphoid hyperplasia with eosinophilia histopathology is sparse to heavy infiltrate of lymphocytes, eosinophils, and plasma cells, with or without lymphoid follicles (12). Patients with ALHE present with a subcutaneous mass in the head and neck region. Microscopically, the vascular endothelium may form aggregates and lobules lined by plump cuboidal or hob-nail endothelial cells, which frequently involve large muscular vessels. Regional lymphadenopathy, serum eosinophilia, and elevated IgE levels are uncommon in ALHE (13).

The main treatment method in KD is surgery. However, systemic or intralesional administration of corticosteroids, and chemotherapy or radiotherapy are among the other treatment options (8,11,14). Since our patient did not have a large mass lesion, chemotherapy or radiotherapy was not deemed necessary. The lymph node in the right inguinal region was surgically excised and methylprednisolone, H_1 blocker, and montelukast treatments were started first, with the patient benefiting from the treatment. Cases treated with transretinoic acid, montelukast, and H_1 blockers have also been previously reported (15). However, the steroid was discontinued due to the development of fracture in the ankle due to steroids in the later phases of the treatment, and recurrence was observed. Therefore, dapsone was started. The patient did not benefit from the treatment and was followed up with sulfasalazine and PUVA treatment. The symptoms were completely controlled. Although it is not very common, cases where cyclosporine and dapsone were used for treatment have also been reported (16).

In our patient, no recurrence was observed in the 2-year follow-up after the treatment was completed. Although KD does not have an optimal treatment method and shows a very good course, intermittent follow-up of patients is recommended because recurrence may occur after surgery (17).

Ethics Approval

Ethical approval is not required at our institution to publish an anonymous case report. Informed consent was obtained from the patient who agreed to take part in the study.

Conflict of Interest

The authors have no conflicts of interest to declare.

Funding

None.

Author Contributions

Concept: **Fatma Merve Tepetam, Seyma Ozden,** Design: **Seyma Ozden, Selver Seda Mersin,** Data collection or processing: **Tugce Yakut, Selver Seda Mersin,** Analysis or Interpretation: **Fatma Merve Tepetam, Tugce Yakut,** Literature search: **Fatma Merve Tepetam, Seyma Ozden,** Writing: **Fatma Merve Tepetam, Seyma Ozden,** Approval: **Fatma Merve Tepetam, Seyma Ozden, Tugce Yakut, Selver Seda Mersin.**

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