

Kikuchi Fujimoto Disease

Case Report

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Abstract

Kikuchi Fujimoto disease (KFD) also known as histiocytic necrotizing lymphadenitis (HNL) is a benign, self-limiting disease, which commonly affects young women under 30 years of age. Most of the cases resolve in a six month period. Laboratory and clinical findings of KFD show similarities with tuberculosis lymphadenitis, malign lymphoma, other malign and benign diseases. The diagnosis is established on the basis of histology of lymph node excisional biopsy. The differentiation of

KFD from Sistemik Lupus Eritematosus (SLE) can sometimes be problematic because both can show similar clinical and histological features. KFD and SLE can be seen together. Forty two years-old female patient diagnosed with KFD was discussed in light of current literature.

Key Words: Kikuchi Fujimoto disease, histiocytic necrotizing lymphadenitis, lymphadenitis

Introduction

Kikuchi-Fujimoto disease (KFD) was first reported in 1972 in Japan by Kikuchi and Fujimoto as lymphadenitis with focal proliferation of reticular cells accompanied by multiple histiocytes and extensive nuclear debris (1, 2). It is a benign and self-limiting syndrome, which is characterized by regional lymphadenopathy primarily involving cervical lymph nodes and usually accompanied by mild fever and night sweats. It is a rare disease (3). The majority of the cases are of Far East origin. A 42-year-old female patient, whom we diagnosed with Kikuchi-Fujimoto disease, was discussed with the relevant literature, since it is a rare condition and could be confused with diseases, the treatments of which are dramatically diverse.

Case report

A 42-year-old female health worker presented with pain, fever and swelling in the left neck with pain radiating to the left arm for the last 15 days. The results of hematological and biochemical analyses, which were performed because of persistent complaints despite antibiotic and anti-inflammatory therapies, were unremarkable. Peripheral blood smear revealed no pathological cells. Ultrasound and computed tomography of the neck illustrated multiple lymph nodes in the superior and posterior cervical region. Lymphoid cells, plasmacytes and immunoblast-type cells were observed in fine needle aspiration biopsy (FNAB) and biopsy from the mass was recommended. After written consent was obtained from the patient, lymph nodes, the largest of which was 3 cm in diameter, were excised. The patient was considered to have KFD based on histopathological examination. Complaints of the patient completely regressed in the first month and she received no additional therapy. Further evaluation and monitoring for SLE revealed no evidence supporting this pathology.

Discussion

Kikuchi-Fujimoto disease (KFD) is a benign and self-limiting syndrome, which is characterized by regional lymphadenopathy primarily in the cervical region, usually accompanied by mild fever and night sweats. It is a rare disease (3). The majority of the cases are of Far East origin. A few cases have also been reported from Turkey (4-7). It is particularly more common in adults younger than 30 years of age. Although it has been previously reported to be 4 times more prevalent in females, the sex ratio is equalized in the recent publications (8, 9). Patients initially present with swelling in the lymph nodes that could be painful. In this period, fever and symptoms of upper respiratory tract infection may ac-



company the clinical manifestations. Unilateral involvement of the posterior cervical group is the most frequently encountered clinical manifestation (3). The patient presented herein as well was admitted with painful swelling in the left posterior cervical lymph nodes.

There are various speculations about its etiology. Viral or autoimmune cause has been suggested. It is claimed to be associated with viral agents such as Epstein Barr virus, parvovirus B19, HTLV Type I, CMV and HSV Type 6, as well as other autoimmune diseases with SLE being the leading (8-13).

Onset of Kikuchi-Fujimoto disease may be either acute or sub-acute. Cervical lymphadenopathy, particularly tender lymphadenopathy in the posterior cervical triangle, is present in almost all of the cases. The size of the lymph nodes change between 0.5 and 4 cm, but may reach to 5-6 cm (9-15). Additionally, 30-50% of the patients may have subfebrile body temperature related to the symptoms of upper respiratory tract infection. Rarely, weight loss, nausea, vomiting, sore throat and night sweat may accompany the picture (16, 17). Leukopenia may be seen in 50% of the cases. Atypical lymphocytosis is seen in the peripheral blood. Extranodal involvement is rare, but dermal, ophthalmic and bone marrow involvement and hepatic dysfunction have been reported (8). KFD is also among the causes of fever of unknown origin (18).

The diagnosis of Kikuchi-Fujimoto disease is usually made by pathological examination of involved lymph node after being excised. It has been reported in the literature that diagnosis can be made by FNAB (19). There is no specific diagnostic laboratory test. Atypical lymphocytosis is seen in the peripheral blood smear in 1/3 of the patients (9). In the present case, peripheral blood smear and erythrocyte sedimentation rate were unremarkable.

Characteristic histopathological appearance includes extensive karyorrhectic debris that may impair nodal formation, irregular paracortical areas of coagulation necrosis and different types of histiocytes bordering necrotic areas (Figures 1-4). Characteristically, neutrophils and plasma cells are not seen. Atypia in the reactive immunoblastic component is not rare and therefore, the condition may be confused with lymphoma (20).

Kikuchi-Fujimoto disease should be differentiated from lymphoma, tuberculosis, lupus, herpes virus infection, Kawasaki, and metastatic tumors, which manifest with lymph node enlargement (8).

Differentiation of Kikuchi-Fujimoto disease from SLE is quite difficult because of similar clinical and histological features. Moreover, there are case reports of KFD in association with SLE. C3, C4, anti Sm and LE cells should be investigated to exclude SLE (21). In the present case, the results of all laboratory tests were negative for SLE over the course of follow-up. KFD

may be difficult to differentiate from malignant lymphoma in early stages of the disease, in which extensive necrosis is not seen because of the presence of massive immunoblasts (11). Less mitotic activity and absence of Reed Sternberg cells support the diagnosis of KFD.

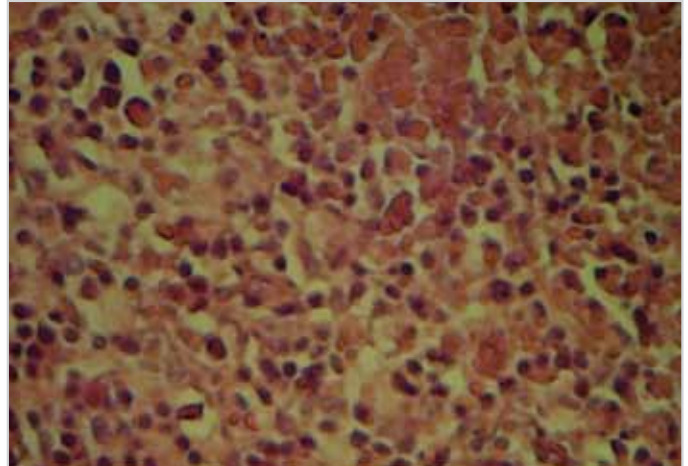


Figure 1. Focal minimal necrosis surrounded by plasmacytoid monocytes and transformed leukocytes in the right upper corner of the figure H.E.x400



Figure 2. Histiocytes, and plasmacytoid monocytes and transformed lymphocytes at the outermost layer, surrounding an area of large necrosis at the right upper corner of the figure H.E.x200

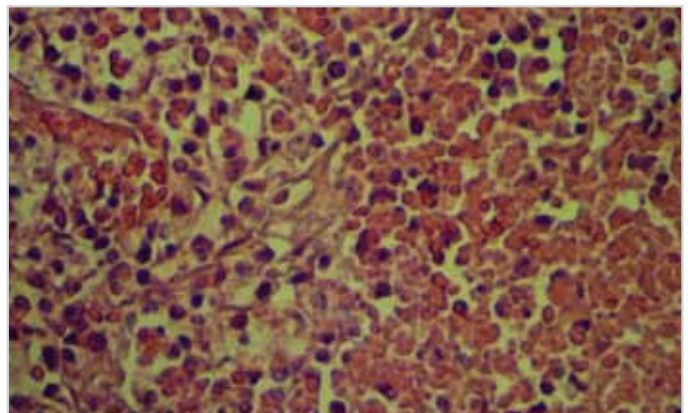


Figure 3. Histiocyte, plasmacytoid monocyte and transformed lymphocyte populations H.E.x400

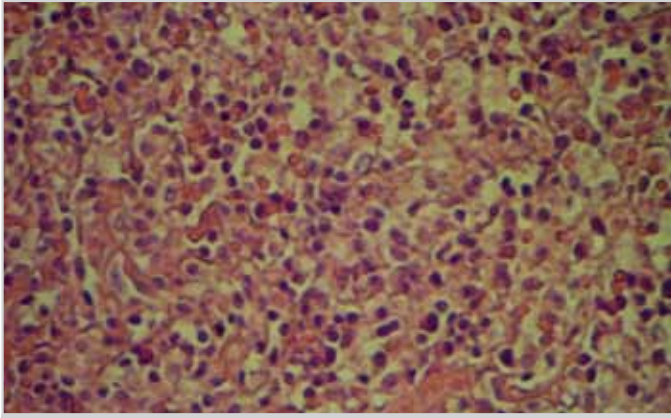


Figure 4. Necrosis, lymphocytic and monocytic cells on the right H.E.x400

Kikuchi-Fujimoto disease generally resolves spontaneously within a period of 1-4 months. Recurrence rate has been reported between 3% and 4% (22). Some patients may develop SLE after years (11). Symptomatic treatment is adequate. Analgesic and antipyretic agents can be used to relieve fever and lymph node tenderness. Corticosteroids are recommended in case of severe extranodal involvement and systemic KFD, but its efficacy is unclear. Regular and systematic monitoring for long term is necessary to exclude development of SLE. Cervical lymphadenopathy has a benign course and spontaneously disappears within 1-6 months following diagnosis (21). In the present case, no local relapse or transformation into SLE was observed within 5-year follow-up after diagnosis.

Conclusion

Kikuchi-Fujimoto disease should be kept in mind in patients with cervical node enlargement since it has similar clinical and histopathological features but dramatically diverse treatment with SLE, tuberculosis and malignant diseases of lymph nodes.

Conflict of Interest

No conflict of interest was declared by the authors.

Peer-review: Externally peer-reviewed.

Informed Consent: Written informed consent was obtained from patient who participated in this case.

Author Contributions

Concept - B.E., S.G.B.; Design - B.E., F.A.; Supervision - B.V., O.Ö.; Funding - B.E., B.V.; Materials - B.E., S.G.B.; Data Collection and/or Processing - B.E., S.G.B.; Analysis and/or Interpretation - B.E., S.G.B.; Literature Review - B.E., F.A.; Writing - B.E., B.V.; Critical Review - B.E., O.Ö.

Kaynaklar

1. Kikuchi M. Lymphadenitis showing focal reticulum cell hyperplasia with nuclear debris and phagocytes: A clinicopathological study. *Acta Hamatol JPN* 1972; 35: 379-80.

2. Fujimoto Y, Kozima Y, Yamaguchi K. Cervical subacute necrotizing lymphadenitis: a new clinicopathologic entity. *Naika* 1972; 20: 920-7.
3. Küçükardali Y, Solmazgöl E, Kunter E, Öncül O, Yıldırım Ş, Kaplan M. Kikuchi Fujimoto Disease: analysis of 244 cases. *Clinical Rheumatology* 2007; 26: 50-4. [\[CrossRef\]](#)
4. Köseoğlu RD, Güven M, Filiz NO. Bir nekrotizan lenfadenitis nedeni; Kikuchi-Fujimoto Hastalığı. *Ankara Üniversitesi Tıp Fakültesi mecmuası* 2006; 59: 182-5.
5. Kılıç G, Yücel ÖT, Üner A. Seyrek görülen bir patoloji. Kikuchi-Fujimoto Hastalığı. *Türk Otolarengoloji Arşivi* 2003; 41: 100-3.
6. Aşardağ A, Akalın T, Büyük S, Mehmet A, Oruç N, Çağman K. Kikuchi-Fujimoto Hastalığı: Bir Vaka Bildirisi. *Klinik Dergisi* 2002; 15: 62-6.
7. Karaman E, Öktem F, Yüksel S, Banitahmşeb E, Acioglu E, Uygun N. Kikuchi-Fujimoto Hastalığı: Olgu Sunumu. *Türk Otolarengoloji Arşivi* 2003; 41: 220-3.
8. Bosch X, Guilabert A, Miquel R, Campo E. Enigmatic Kikuchi Fujimoto Disease: a comprehensive review. *Am j Clin Pathol* 2004; 122: 650-3. [\[CrossRef\]](#)
9. Lin HC, Su CY, Huang CC, Hawang CF, Chien CY. Kikuchi's Disease. A review and analysis of 61 cases. *Otolaryngol Head Neck Surg* 2003; 128: 650-3. [\[CrossRef\]](#)
10. Unger PD, Rappaport KM, Strauchen JA. Necrotizing lymphadenitis (Kikuchi's disease). Report of four cases of an unusual pseudolymphomatous lesion and immunologic marker studies. *Arch pathol LabMed* 1987; 111: 1031-4.
11. Pileri As, Pileri A, Yasukawa K, Kuo TS, Sullivan K. The Karma of Kikuchi's disease. *Clin Immunol* 2005; 114: 27-9. [\[CrossRef\]](#)
12. Imamura M, Uemo H, Matsuura A, Kamiya H, Suzuki T, Kikuchi K, Onoe T. An ultrastructural study of subacute necrotizing lymphadenitis. *Am pathol* 1982; 107: 292-9.
13. Menasce LP, Banerjee SS, Edmondson D, Haris M. Histiocytic necrotizing lymphadenitis (Kikuchi Fujimoto Disease): continuing diagnostic difficulties. *Histopathology* 1998; 33: 248-54. [\[CrossRef\]](#)
14. Ohshima K, Shimazaki K, Kume T, Suzimiya J, Kanda M, Kikuchi M. Perforin and Fas pathways of cytotoxic T-cells in histiocytic necrotizing lymphadenitis. *Histopathology* 1998; 33: 471-8. [\[CrossRef\]](#)
15. Kuo T. Kikuchi's disease (histiocytic necrotizing lymphadenitis) A clinicopathologic study of 79 cases with an analysis of histologic subtypes, immunohistology, and DNA polidy. *Am J Surg Pathol* 1995; 19: 798-809. [\[CrossRef\]](#)
16. Yen A, Fearneyhough P, Raimor SS, Hudnall SD. EBV associated Kikuchi's histiocytic necrotizing lymphadenitis with cutaneous manifestations. *J Am Acad Dermatol* 1997; 36: 342-6. [\[CrossRef\]](#)
17. Bosch X, Guilabert A. Kikuchi Fujimoto Disease. *Ned Clin (Barc)* 2004; 123: 471-6. [\[CrossRef\]](#)
18. Kapadia V, Robinson BA, Angus HB. Kikuchi's disease presenting as fever of unknown origin. *Lancet* 1989; 2: 1519-20. [\[CrossRef\]](#)
19. Hsueh EJ, Ko WS, Hwang WS, Yam LT. Fine-needle aspiration of histiocytic necrotizing lymphadenitis (Kikuchi's disease). *Diagn Cytopathol* 1993; 9: 448-52. [\[CrossRef\]](#)
20. Tsang WY, Chan JK, Ng CS. Kikuchi lymphadenitis: A morfologic analyses of 75 cases special reference to unusual features. *Am J Surg Pathol* 1994; 18: 219-31. [\[CrossRef\]](#)
21. Bosch X, Guilabert A. Kikuchi Fujimoto Disease: Orphanet Journal of Rare Diseases 2006; 23: 1: 18.
22. Dorfman RF. Histiocytic necrotizing lymphadenitis of Kikuchi and Fujimoto. *Arch Pathol Lab Med* 1987; 111: 1026-9.