

Kikuchi-Fujimoto Disease: A Rare Presentation with Localized Iliac Lymphadenitis

Shrihari Anil Anikhindi¹, MD;
Anil Arora¹, MD, DM;
Shashi Dhawan², MD;
Naresh Bansal¹, MD, DNB;;
Praveen Sharma¹, MD, DM;
Vikas Singla¹, MD, DM;
Ashish Kumar¹, MD, DM

¹Department of Gastroenterology, Sir Ganga Ram Hospital, New Delhi;

²Department of Pathology, Sir Ganga Ram Hospital, New Delhi

Correspondence:

Ashish Kumar, MD;
Department of Gastroenterology and Hepatology Sir Ganga Ram Hospital, Rajinder Nagar, New Delhi, 110 060, India

Tel: +91 93 12792573

Fax: +91 11 25861002

Email: ashishk10@yahoo.com

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What's Known

- Kikuchi Fujimoto disease (KFD) is a benign self-limiting disease of unknown etiology, characterized by histiocytic necrotising lymphadenitis of usually cervical region.
- It is found more commonly in females (F:M ratio 4:1).

What's New

- We present a rare case of KFD presenting in a male patient, conspicuous with the absence of cervical lymphadenopathy and presenting with localized intra-abdominal lymph nodes in the right iliac fossa.
- KFD should be thought of as differential diagnoses of young adults with intra-abdominal lymphadenopathy and symptoms of fever, night sweats, and weight loss.

Abstract

Kikuchi-Fujimoto disease (KFD) is a benign, self-limiting disease characterized by histiocytic necrotising lymphadenitis. Though several viral agents or an autoimmune etiology has been proposed as causative, the exact cause remains unknown. It has a female predilection and most commonly seen among young Asian people. Patients usually present with a febrile illness and the presence of lymphadenopathy may provide a clue to diagnosis. The most common site of lymphadenopathy is cervical lymph nodes while intra-abdominal involvement is uncommon. Cases of KFD presenting with intra-abdominal lymphadenopathy have been reported to occur with equal frequency in both sexes. Abdominal tuberculosis, non-Hodgkin's lymphoma, and systemic lupus erythematosus are close differential diagnoses for this type of presentation. Treatment is mostly supportive as the disease usually resolves spontaneously; steroids are only required in severe cases. We report a 32-year-old male patient of intra-abdominal lymphadenitis that presented as fever of unknown origin (FUO) and diagnosed by excisional biopsy as a case of KFD.

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Keywords • Histiocytic necrotising lymphadenitis • Fever of unknown origin • Abdomen

Introduction

Kikuchi-Fujimoto disease (KFD) is a benign, self-limiting disease characterized by histiocytic necrotising lymphadenitis. In 1972, Kikuchi and Fujimoto independently described this entity.

KFD usually involves the cervical lymph nodes. Involvement of intra-abdominal lymph nodes has been rarely reported. It is significantly more common in females.

The exact cause of KFD is unknown and it is suspected that viral agents or autoimmune aetiology may have some role. A wide range of possible associations of the disease with agents like *Yersinia enterocolitica*, *Toxoplasma gondii*, Epstein-Barr virus, cytomegalovirus and a host of other viruses has been suggested, but not proven to be contributory.¹

Clinically, KFD has many similarities to systemic lupus erythematosus (SLE). Both diseases have similar sex predisposition and age profiles. Even on histological analysis, several features are common in both diseases. In view of these similarities, some consider KFD to be a SLE-like autoimmune condition caused by virus-infected transformed lymphocytes.²

We report a case of intra-abdominal lymphadenitis that presented as fever of unknown origin(FUO) and diagnosed by excisional biopsy as a case of KFD.

Case Presentation

A 32-year-old male, a resident of Gwalior in Central India, presented with complaints of fever, weight loss, and decreased appetite since one month prior to presentation. Fever was high grade (daily spikes of up to 102°F), intermittent, and not associated with chills or rash. Weight loss was about 5 kg; associated with severe prostration and decreased appetite. There was no history of chronic cough, diarrhoea or other significant symptoms. There were no addictions or past history of any significant illness.

Physical examination revealed an average built and well-nourished male with no evidence of any significant findings on general or systemic examination. The haemogram was conspicuous for the lack of leucocytosis with a low normal total leucocyte count (TLC) of 4200 cells/mm³. The differential counts showed neutrophils 62%, lymphocytes 29%, eosinophils 1%, basophils 0%, and monocytes 8%. Platelet count was 414×10³/mm³. Liver and kidney function tests were normal. Urine examination did not reveal any pus cells and leucocyte esterase was negative. Erythrocyte sedimentation rate (ESR) was significantly raised at 95 mm at the end of the first hour. HIV-I and HIV-II, HBsAg, and anti-HCV were negative. Chest X-ray was normal. Ultrasonography (USG) of the abdomen revealed mild hepatomegaly with multiple mesenteric lymph nodes and omental mesenteric thickening in the right lower abdomen suggestive of an infective etiology such as Koch's abdomen. USG-guided fine-needle aspiration(FNA) taken from the mesenteric lymph nodes showed lymphocyte predominance, few centro blasts, and centrocytes in the background of lympho glandular bodies and red blood cells without granuloma and epitheloid cells; which is suggestive of reactive lymphadenopathy.

The patient was further subjected to a full FUO workup, including blood tests for malarial antigen as well as parasite, Widal test, dengue serology, leptospira serology, scrub-typhus serology and RPR for syphilis. All these tests as well as Mantoux test were negative. Serum angiotensin-converting enzyme level was normal. Blood cultures were taken on three different occasions from three different sites and all were sterile. Antistreptolysin O, C-reactive

protein, and rheumatoid factor were negative. Serum agglutination test for Brucella antibodies was negative at the titre of 1:40. A further workup was initiated to rule out any connective tissue disorders, and antinuclear antibody (quantitative), cytoplasmic antineutrophil cytoplasmic antibody, perinuclear antineutrophil cytoplasmic antibody, and serum cryoglobulins were found to be normal. Furthermore, a bone marrow aspiration and biopsy tests were done, which only revealed a cellular active bone marrow with all normal haematopoietic elements and no abnormal cells.

Two-dimensional echocardiographic findings revealed no vegetations. Furthermore, a contrast-enhanced computed tomography (CECT) of the thorax and whole abdomen was done. It revealed subcentimeter nodes in the bilateral axillae which were insignificant, and multiple small mildly enlarged lymph nodes (5-25 mm) in the right iliac fossa along mesenteric and right iliac vessels without evidence of obvious internal necrosis or calcification suggestive of infective or inflammatory pathology (e.g. tubercular). As previous USG-guided FNA cytology was inconclusive, the patient was subjected to a diagnostic laparoscopy and excisional biopsy of the iliac lymph nodes. Liver biopsy was also done simultaneously. Intraoperative findings revealed a normal bowel with thickened omentum and multiple enlarged mesenteric lymphnodes along external iliac vessels. The omental and liver biopsies were unremarkable while the lymph node biopsy revealed large geographic areas of necrosis involving 70% of the total nodal area with extensive karyorrhectic debris with the absence of neutrophils, plasma cells, granulomas, AFB, or fungal elements (figures 1-3).

Considering the clinical presentation and laboratorial profile of high ESR, low normal TLC and necrotising lymphadenitis, a diagnosis of KFD was considered and the patient was started on oral prednisolone at an initial dose of 40 mg/kg and later tapered. Consequently, serologies for Yersinia, Toxoplasma, EBV, CMV, HSV-I and HSV-II, as well as parvovirus were sent and all were negative. The patient noted a significant improvement in symptoms by day 3 with the absence of fever and resumption of normal appetite by day 5. He was discharged on day 7 and was later followed up for 1 year through outpatient visits and telephonic interviews. There was no subsequent febrile relapse or other symptoms.

This case report was approved by the Institutional Ethics Board. Valid consent was obtained from the patient prior to publication of this case report.

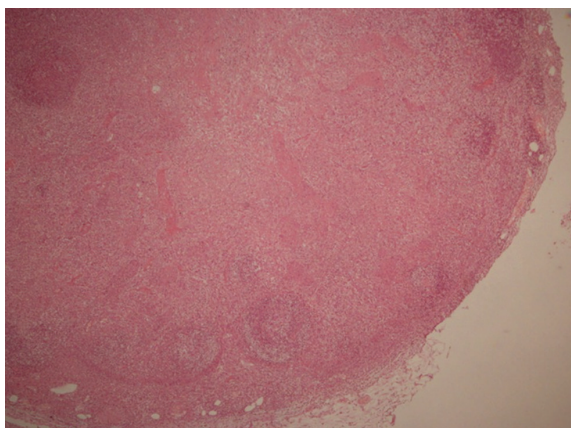


Figure 1: Lymph node showing geographic areas of necrosis with focally preserved follicles (H&E, 40×).

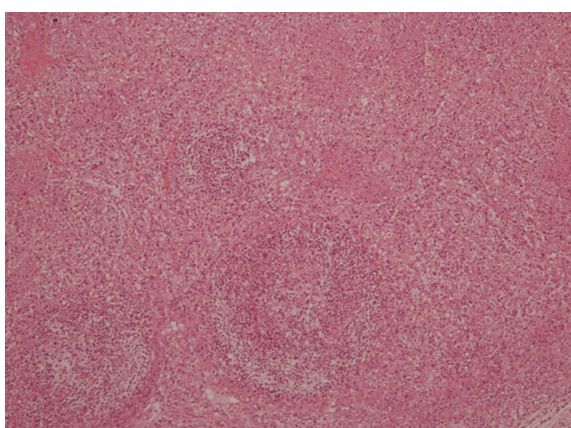


Figure 2: Lymph node showing large areas of necrosis with focally preserved follicles (H&E, 100×).

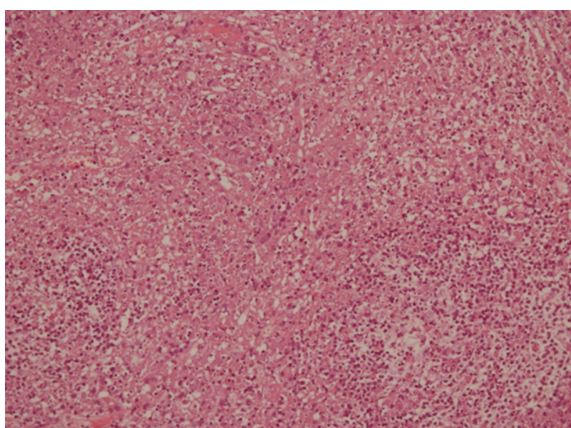


Figure 3: Necrosis with prominent karyorrhectic debris, which is devoid of neutrophils and plasma cells (H&E, 400×).

Discussion

KFD is a self-limiting disease of unknown etiology involving the lymph nodes. It is diagnosed on the basis of histopathological evaluation, which characteristically shows necrotising lymphadenitis.

KFD is more common in females as compared to males. Typically it is found among young Asian

women, in a ratio of 4:1 (female: male)³ with most cases being under the age of 30 years. The onset could be acute or subacute, evolving over two to three weeks. The main clinical feature is typically unilateral cervical lymphadenopathy. Bosch et al.⁴ reported that the most frequent site of lymphadenopathy is cervical lymph nodes (56%–98%), more commonly occurs in the posterior cervical triangle (88.5%), and is generally unilateral (88.5%) and localised.

Fever can be the first symptom in 30% to 50% of the cases. Less frequent symptoms include weight loss, nausea, vomiting, sore throat, and night sweats. Skin lesions like maculopapular, morbilliform, urticarial rashes, or a disseminated erythema have been reported.⁵

Elevated ESR and neutropenia were the prominent haematological findings in a review of the literature on KFD.⁶ This disorder does not have a characteristic radiological appearance.⁷ In a study of 96 retrospective CT scans of patients with confirmed KFD, Kwon et al. found that multiple homogeneous lymphadenopathies involving levels II to V were found in most, with 94% being smaller than 2.5 cm.⁸ Diagnosis is based on lymph node histology with excision biopsy providing the best diagnostic accuracy.⁹ Abdominal tuberculosis, non-Hodgkin's lymphoma, systemic lupus erythematosus or infections like *T. gondii* or *Yersinia enterocolitica* are close differential diagnoses and may have similar clinical and/or pathological presentation. Treatment is supportive. Corticosteroids are considered if the clinical course is severe or persistent. Generally, the disease is self-limiting with recovery in weeks to months.

Our case was a rare presentation of KFD, presenting in a male patient, conspicuous in the absence of cervical lymphadenopathy and presenting with localised intra-abdominal lymph nodes in the right iliac fossa. Such a presentation in a tropical country like India usually leads the clinician to suspect tuberculosis. KFD presenting with abdominal lymph nodes is a very rare presentation. Intra-abdominal lymphadenopathy was reported in 2.6–4.3% of the cases in the existing literature.^{10,11} Only 28 cases of KFD involving intra-abdominal lymphadenopathy have been reported in the Japanese and English literature.^{12,13}

A review of KFD cases involving intra-abdominal lymph nodes¹³ reported an almost equal occurrence in males, with fever followed by abdominal pain being the most common presenting symptoms. The mean age in this reported series was 28.8 years. Mesenteric lymph nodes, including iliac lymphadenopathy was seen in 16 of the total 28 reported cases.

Conclusion

Intra-abdominal lymphadenopathy caused by KFD is relatively rare. However, KFD should be considered in young adults with intra-abdominal lymphadenopathy with symptoms such as night sweats, weight loss and nausea instead of blindly favouring other common diagnoses like TB or lymphoma. This case serves as a reminder that differential diagnosis of pyrexia of unknown origin should not unduly skewed based on the common disease principle.

Conflict of Interest: None declared.

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