

Case Report

Kikuchi-Fujimoto disease in inguinal lymph node - A rare site of occurrence

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Abstract

Kikuchi-Fujimoto disease (KFD) is also known as histiocytic necrotizing lymphadenitis. It is a benign, systemic lymphadenitis, self limiting disease first described independently by Japanese Pathologists Kikuchi and Fujimoto in Japan in 1972. The incidence of KFD is unknown. KFD is up to 4 times commoner in women. It presents as lymphadenopathy mainly involving the posterior cervical region, but can occur in any lymph node and even in extra nodal sites. Fever is associated with lymph node enlargement in half of the cases. Though viral and autoimmune cause is suggested by some studies, the exact etiology remains uncertain. There have also been reports of a relation between KFD and systemic lupus erythematosus. Most of the preoperative diagnostic tests are inconclusive. Definitive diagnosis depends on the histopathological examination of the lymph node biopsy. Clinically it has to be differentiated from other lesions like malignant lymphoma, mononucleosis tuberculosis and SLE as treatment and prognosis differs. Here we submit a case of Kikuchi-Fujimoto disease in an inguinal lymph node in a young adult auto driver.

Key words

Benign, Cervical, Histiocytic, Inguinal, Kikuchi-Fujimoto, Necrotizing lymphadenitis.

Introduction

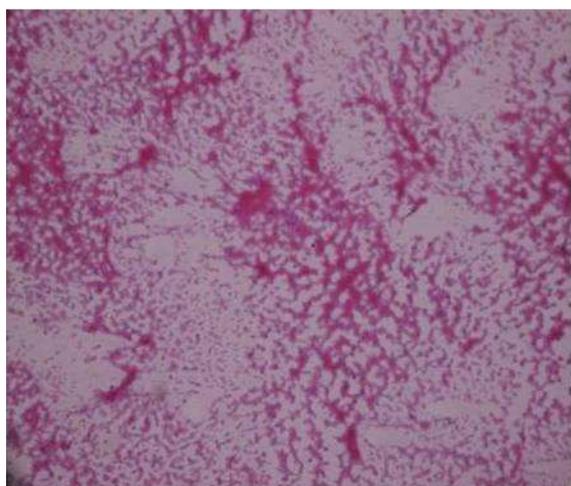
Kikuchi-Fujimoto disease (KFD) or histiocytic necrotizing lymphadenitis, benign, uncommon lymphadenitis and it is a self limiting disease. Though viral and autoimmune causes are suggested by some studies, the exact etiology remains uncertain. There have also been reports of a relation between KFD and systemic lupus

erythematosus (SLE) [1, 2]. It occurs mainly in cervical lymph nodes of young Asian women but can occur in any age, sex and location. Clinically it has to be differentiated from other lesions like malignant lymphoma, mononucleosis tuberculosis and SLE as treatment and prognosis differs [2, 3]. Definitive diagnosis depends on the histopathological examination of the lymph node biopsy.

Case report

A 32 year old male patient came to the hospital with complaints of inguinal swelling since 6 months. He had history of fever in the past which was on and off. He had no history of weight loss, night sweats and cough. His past history was nil significant. On examination, he was febrile with swelling of the inguinal lymph node measuring 2x3 cm, prepuce and glans were free from ulcers. It was solitary, firm and tender swelling. Patient subjected for routine investigation. Complete blood picture, urea, creatinine and bilirubin were within normal limits. Only abnormality was slight elevation of the ESR. Ultrasound examination was inconclusive. FNAC was also inconclusive, FNAC done 3 times which showed only necrotic material (**Figure - 1, 2**). Inguinal lymph node was excised and sent for the histopathological examination which confirmed the diagnosis of KFD (**Figure - 3, 4, 5, 6**).

Figure - 1: Low power view of cytosmears showing necrosis and blood elements.



Discussion

Kikuchi-Fujimoto disease (KFD) is a form of histiocytic necrotizing lymphadenitis first described in 1972, independently and simultaneously by two different Japanese Pathologists Kikuchi and Fujimoto [4]. The incidence of KFD is unknown. It is a benign, self-limiting condition observed commonly in

young adult women. KFD is 3 to 4 times more common in women [4] but recent studies show equal incidence in both sexes [2]. KFD presents as lymphadenopathy in all cases and 80% of cases involves the cervical nodes in the posterior region but, can also involve carotid, axillary, mediastinal, celiac, inguinal and supra clavicular nodes [5]. Extra nodal sites are also involved in some cases. The incidence of skin involvement varies as the lesions are nonspecific, which may include macula-papular lesions, nodules, urticaria, morbilliform rash and malar rash, which may simulate SLE [4]. Our case occurred in a male patient, presented with inguinal lymphadenopathy and fever.

Figure - 2: High power view of cytosmears showing necrosis and blood elements.

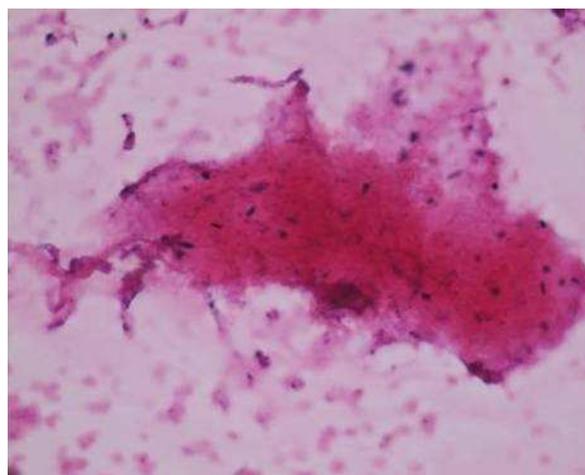


Figure - 3: Histopathology sections showing lymph node architecture with capsule.

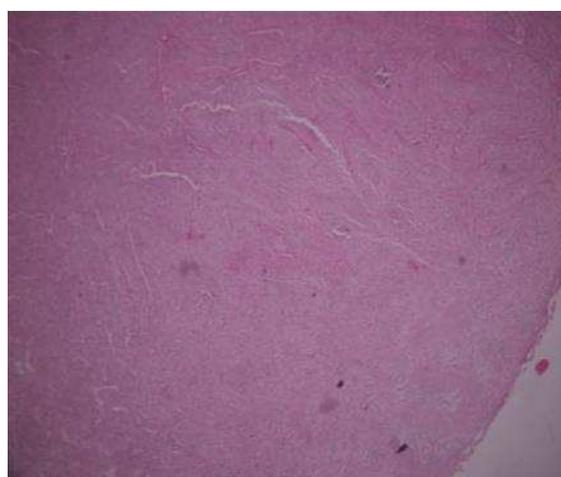


Figure - 4: Photomicrograph showing lymphoid follicles with surrounding necrotic areas.

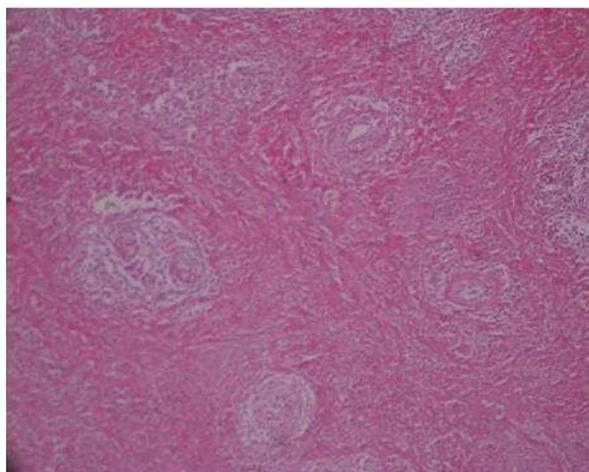


Figure - 5: Photomicrograph showing lymphoid population of cells.

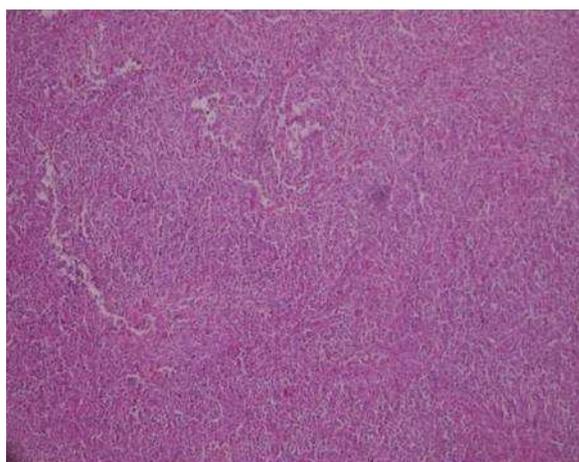
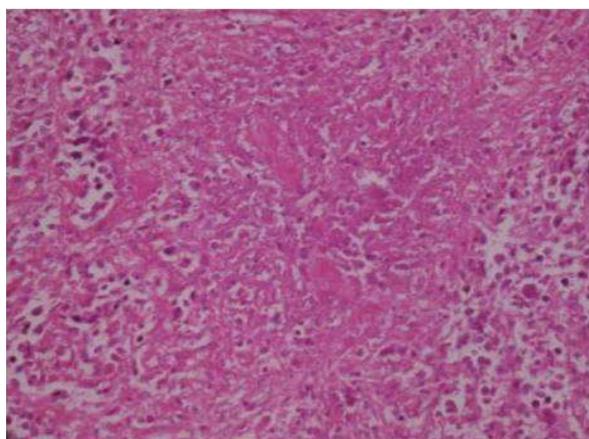


Figure - 6: Photomicrograph showing central necrotic areas surrounded by apoptotic bodies and Karyorrhectic debris.



The lymphadenopathy may be firm, smooth and painless to painful. It is usually isolated, but up to 20% of patients have generalized lymphadenopathy. Fever is the most prominent symptom in up to 50% of effected patients and can persist for a week or associated with lymphadenopathy other symptoms include night sweats and chills, weight loss, loose motions, rash, and arthritis. Less common symptoms include hepatosplenomegaly, headache, malaise, chills, and gastrointestinal complaints [4, 5].

The exact etiology of KFD is unknown, but is thought to be triggered by an autoimmune or viral mechanism with an exaggerated T-cell-mediated immune response in genetically susceptible people to any kind of stimuli. Viral agents such as Epstein Barr Virus (EBV) , Human T lymphotropic virus 1 (HTLV-1), dengue virus , Human immunodeficiency virus (HIV), Herpes simplex virus (HSV), cytomegalovirus (CMV) and Parvovirus B19 have been suggested as possible etiological agents [1, 2, 3, 4, 6, 7]. There are several reports by many authors suggesting an association between KFD and SLE; however, no convincing evidence is available to confirm the said association [6, 7, 8]. The mechanism of cell death in KFD is by apoptosis, which is supported by the finding of nuclear debris in effected lymph node, characteristic features of KFD. It has been reported that T lymphocytes of CD8+ group seem to be the lymphocytes that undergo apoptosis. Recent studies suggest that primary mechanism of KFD necrosis involves a cytolytic protein- Perforin and Fas pathways as CD8+ T-cell cytotoxic mechanisms that could induce apoptosis in target cells in patients with KFD [4, 7]. The existence of a Fas/FasL interaction in these cells might imply a histiocyte- dependent death of CD8+ T cells, which could amplify the background process [7]. Serum concentrations of few inflammation mediators such as interferon (IFN)- γ , FasL, and interleukin-6 have been reported to be increased during the acute phase of KFD and returning to normal levels during the convalescent phase. Ultrasonography frequently shows enlarged lymph nodes with a hypo echoic

center and a hyper echoic periphery. Computerized Tomography (CT) and magnetic resonance imaging (MRI) of KFD can be variable and mimic various necrotic nodal diseases, including metastasis and tuberculosis [7]. There are no specific assays available to confirm the diagnosis of KFD. Peripheral blood smear tests reports indicate up to 58.3% of KFD patients often have leucopenia, and 25.0% to 31.1% of patients have reactive lymphocytes [4, 9]. Fine-needle aspiration cytology (FNAC) to establish a cytological diagnosis of KFD has been limited and is useful, when supported by typical clinical features [7, 10]. Characteristic cytomorphological features include crescentic histiocytes, plasmacytoid monocytes and extracellular debris [10]. In present case, the routine investigations were in conclusive and the diagnosis was made only after histopathological examination of excised node.

The definitive diagnosis is examination of the lymph node and histological examination [7, 9, 10]. Characteristic histological features include irregular and focal areas of coagulative necrosis in the paracortical region with karyorrhectic remanants, which can distort the nodal architecture. Karyorrhectic foci are of different cellular types, predominantly histiocytes and plasmacytoid monocytes, but also by the immunoblasts and large to small lymphocytes. Nuclear debris is evenly scattered throughout the necrotic debris and is associated with atypical mononuclear cells, which may be macrophages engulfing and phagocytosing the debris. The presence of histiocytes with crescentic nuclei is a helpful but not invariable feature [11]. Neutrophils and eosinophils are significantly absent which is one of the characteristic of KFD and plasma cells may be absent or sparse. The histological differential diagnosis of Kikuchi's disease includes lymphadenitis associated with systemic lupus erythematosus, lymphoid malignancies, infections like tuberculosis, infectious mononucleosis, syphilis and rarely sarcoidosis and adenocarcinoma. These are differentiated by clinical, histopathological and immuno-histochemical examination. The

immuno-phenotype of KFD is primarily composed of mature CD8+ and CD4 +positive T lymphocytes along with Myeloperoxidase (MPO) and CD68 positive histiocytes [10, 12]. Treatment of KFD is generally supportive only, no specific treatment available. The disease usually runs a benign course. The condition usually resolves in few months. Non-steroidal anti-inflammatory drugs (NSAIDs) may be used for treating fever and tenderness of swelling. In severe form of disease corticosteroids has been recommended. Other therapies such as corticosteroids, hydroxychloroquine, methotrexate, and intravenous immunoglobulin have been used for severe cases [12]. The disease has a very less recurrence rate and hence prognosis is excellent.

Conclusion

KFD is a self-limited, benign, uncommon lymphadenitis of unknown etiology. It occurs mainly in cervical lymph nodes of young female adults but can occur in any location, sex and age. Our case was unique as it occurred in the inguinal lymph node and in a male patient who is auto driver mimicking Sexually transmitted Disease (STD). Although rare, KFD must be kept in differential diagnosis when a young female presents with lymphadenopathy and fever. This condition has to be differentiated from others, as it is self-limited and has good prognosis. The definitive diagnosis of KFD is made through lymph node excision biopsy and histological examination. Our case showed an excellent prognosis on follow up.

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