BJMS
Borneo Journal of Medical Sciences

CASE REPORT

Beyond the Usual Suspects: A Diagnostic Challenge of Kikuchi-Fujimoto Disease in a Young Male

Kalaiarasan Gemini[1,*], Sen Lin Lee[2]

[1] Department of Rheumatology, Hospital Queen Elizabeth, 88586 Kota Kinabalu, Sabah, Malaysia
[2] Department of Pathology, Hospital Queen Elizabeth, 88586 Kota Kinabalu, Sabah, Malaysia

*Corresponding author's email: kalai9210@gmail.com

Received: 08 May 2025

Accepted: 02 December 2025

Published: 04 May 2026

DOI: https://doi.org/10.51200/bjms.v20i2.6396

Keywords: *Kikuchi-Fujimoto disease, KFD, fever, lymphadenopathy*

ABSTRACT

Kikuchi Fujimoto Disease (KFD) is a rare disorder characterized by histiocytic necrotizing lymphadenitis with clinical presentation mimicking other diseases. We present a 15-year-old young boy presented with unremitting fever, erythematous rash and inguinal lymphadenopathy. On physical examination, he also had splenomegaly. On further history, the patient did not have any infective or autoimmune symptoms with no positive family history of cancer. His travel, medication and drug histories were also non-significant making a diagnostic conundrum. The initial investigations done narrows it on either lymphoma or an occult sepsis since hyperleukocytosis and increased inflammatory markers were noted. However, after an extensive workup and multidisciplinary input, with the help of histopathological examination of the inguinal lymph node tissue, the diagnosis of KFD was able to achieve. Here, we present a case with this condition highlighting the challenges faced throughout the process of diagnosis and the importance of recognizing this rare disease as well as the detailed diagnostic approach.

INTRODUCTION

Kikuchi-Fujimoto Disease (KFD) is listed as one of the rare disorders in national organization of rare disorders based in United States of America (Natural Organization for Rare Disorders, 2023). It is also referred to as histiocytic necrotizing lymphadenitis which is a self-limiting inflammatory condition initially documented in Japan in 1972 by a Japanese pathologists Kikuchi and Fujimoto (Kikuchi et al, 2022). The disease is commonly documented in young Asian adults who are less than 40 years old with recent reports showing closer to 1:1 ratio on gender predominance (Lin et al, 2003) (Bosch et al, 2004). Clinical presentations were listed as cervical lymphadenopathy (most common), fever, splenomegaly, axillary lymphadenopathy, rash, and etc (Kucukardali et al, 2007). KFD is labeled as a mimicker due to its presentation being similar to lymphoma, viral infections and autoimmune conditions (Lo et al, 2018). The disease may present as primary or secondary based on the underlying condition such as autoimmune disorders e.g. systemic lupus erythematosus (Jagadeesan et al, 2022). Since it's a self-limiting disease, treatment is mostly symptomatic with anti-pyretics and non-steroidal anti-inflammatory drugs and rarely steroids (Fadul et al, 2022). Here, we present a case of KFD in a young male after facing a diagnostic dilemma.

CASE PRESENTATION

A 15-year-old Sabahan teenage boy, with no known comorbidities or allergy, presented with unremitting fever for 1 week associated with myalgia, arthralgia, and unintentional weight loss. He also noticed macular rashes from trunk down to his both lower limbs since day 1 of illness. Otherwise, he denied any infective symptoms or autoimmune symptoms with no significant family history of malignancy or any recent travel history. He denied taking illicit drugs except for anti-pyrexia medication and an incomplete course of antibiotics prescribed by his general practitioner on day 3 of illness during clinic visit. Otherwise, there were no over the counter medication or traditional medication intake as well. Besides that, he did not recall having any sick contact or experiencing profuse night sweats prior this illness. On further history, he recalled no recent swimming in the river or jungle trekking. Notably, he did not realize any lump or swelling in any body parts. On day 8 of illness, he was brought into the Emergency Department of a tertiary hospital with the main concern of unsettling fever, evident by a documented temperature of 38^{o}C. He was otherwise hemodynamically stable with a heart rate of 88 beats/min, respiratory rate of 16 breaths/min and blood pressure of 116/87 mmHg.

On physical examination there were diffuse, palpable lymphadenopathy involving right inguinal and left level 5 cervical region each measuring 1.2cm and 0.8cm respectively tethered to the underlying skin. After an ear, nose and throat (ENT) specialty team consult, his ear, nose and other throat examination were deduced as normal with an extensive examination of the nasopharynx and throat using a direct laryngoscope and normal external ear and tympanic membrane finding. On skin examination, there was maculopapular rash distributed over the trunk and all 4 limbs. On auscultation of the chest, breath sounds were normal and equal bilaterally, and normal heart sounds were present. However, there was splenomegaly on the abdominal examination with dull Traube's space but unable to palpate nor measure the size of the spleen.

The laboratory investigations taken for this patient has been listed in Table 1. The initial laboratory investigation interpretation were hyperleukocytosis predominantly neutrophilia, hypochromic microcytic anemia with possibility of iron deficiency anemia, thrombocytosis and an increase inflammatory marker including CRP and LDH. Thus, a provisional diagnosis of lymphoma and occult sepsis was labelled. A dermatology review was obtained on day 2 of admission, commented as maculopapular exanthem secondary to underlying infection. Further investigation was taken to rule out any autoimmune condition and occult viral screening. (Table 2) Extensive septic workup including blood bacterial and fungal culture and sensitivity, and urine culture and sensitivity was taken which turned out negative as well. In view of the background epidemiology of Sabah, Malaysia, tuberculosis workup was also done including a normal chest X-ray, three gastric lavage acid fast bacilli stain and a gastric lavage tuberculosis gene Xpert PCR test as patient was unable to expectorate sputum which came back as negative as well.

We performed a computer tomography scan of the thorax, abdomen and pelvis to rule out any intrabdominal collection which reported as splenomegaly with axillary, mediastinal and inguinal lymphadenopathy each measuring about 1-1.5cm (Figure 1 & 2). An excisional biopsy of right inguinal lymph node was performed which showed histiocytic necrotizing lymphadenitis. It is defined by multiple non expansile, circumscribed karyorrhectic focus in the paracortex region in which these karyorrhectic focuses consist of proliferated histiocytes with abundant lymphocytes and plasmacytoid dendritic cells (Figure 3).

Notably, on the immunohistochemistry front, the histiocytes expressed CD163 (Figure 4a), CD4, CD14 and MPO. On the other hand, plasmacytoid dendritic cells showed positive for CD123 and CD4. With the presence of polyclonal populations of T-cells (Figure 4b and 4c) as well as no downregulation of T-cell immunohistochemical markers, i.e. CD2, CD3, CD5 and CD7, the main differentials for an underlying T-lymphoproliferative disorder is excluded. Additionally, EBER ISH testing was also negative, further excluding an underlying EBV-related lymphoproliferative disorders. Additional immunohistochemical markers such as CD30, ALK1, CD56, CD10, BCL6, EMA, TDT, CD34, CD117, S100, CD20, and PAX5 were done to further exclude possible differentials of lymphoblastic lymphoma, myeloid sarcoma, classical Hodgkin lymphoma and non-Hodgkin B-cell lymphoma which are necessary to conclude and support the diagnosis of KFD.

During patient's admission, a myriad course of antibiotics was given including intravenous Amoxicillin-Clavulanic acid for 5 days, intravenous Piperacillin-Tazobactam for 5 days, tablet ciprofloxacin for 5 days and azithromycin for 5 days. After an extensive workup and a sufficient duration of antibiotics, intravenous hydrocortisone was started for 3 days which showed good response (resolving fever and rashes). Subsequently, patient was fit to be discharged home after 3 days of intravenous hydrocortisone with oral prednisolone of 0.5 mg/kg/day and a designated tapering regime. Further follow-up was then given in outpatient rheumatology clinic after 1 month where the patient noticed improved skin rashes and his overall general well-being. On his abdominal examination, the splenomegaly had completely resolved.

DISCUSSION

Kikuchi-Fujimoto disease (KFD), also known as Kikuchi disease or histiocytic necrotizing lymphadenitis, is a rare, benign, self-limiting disorder that can cause splenomegaly. KFD is well known for being a diagnostic dilemma due to its presentation which can be confused with viral or atypical bacterial infections, lymphoma and autoimmune diseases (Lo et al, 2018). KFD's prevalence is widely distributed among young Asian with cases documented in Japan and East Asian countries (Bosch et al, 2004). The incidence documented in Malaysia is very limited with close to none reporting sighted in Borneo region of Malaysia (Mohd Nasir et al, 2021).

Two possible theories explaining the etiology of KFD were infectious and autoimmune origin as no true causal relationship were able to be established. It was investigated that viral, bacterial and parasite could possibly trigger this inflammatory process in patients (Kucukardali et al, 2007). In our case no prodromal infective symptoms or autoimmune symptoms were able to be established. Clinical presentation of our patient however was typical of the reported KFD. In addition to common symptoms, he also had a maculopapular exanthem rash which was only documented in 10% of the patients and splenomegaly which accounted for only 3% from a total of 244 cases analyzed (Kucukardali et al, 2007).

Since it is a well-known imitator, the diagnostic duration may take longer (Lo et al, 2018). Our patient went through an in-depth investigation to avoid misdiagnosis. Besides the basic investigation of complete blood count, renal and liver profile and inflammatory markers, autoimmune investigation with anti-neutrophilic antibody (ANA) and complement factors (C3/C4) were sent. We also sent an infective viral screening to rule out occult infection such as retroviral disease which can have wide range and atypical presentation. Also, considering the patient's presentation with lymphadenopathy and prolong fever a thorough investigation with peripheral blood film and histopathological examination of the inguinal biopsy was sent. In addition, all the cultures and sensitivity turned out to be negative. This is a difficult circumstance faced by many physicians.

The diagnostic duration can vary from different diagnostician based on the available resources. It took 2 weeks for us to come up with a diagnosis for this patient. Bosch X et al labels it as a pathologist diagnosis in view of the histopathological definition of the disease (Bosch et al, 2004). The characteristic clinicopathological feature of KFD include irregular paracortical areas of coagulative necrosis and large number of different types of histiocytes at necrotic margins (Bosch et al, 2004). This was present in our case. The diagnostic accuracy of excisional lymph node biopsy with immunohistochemistry was highlighted by Mehboob et al in a case study (Hassan et al, 2009).

KFD is a self-limiting disease with spontaneous resolution occurring within 1 to 6 months. There were no treatment guidelines established and recommendations were based on case series, and experts' opinion. Supportive management is the main stay of the treatment but patient with severe disease may require a corticosteroid tapering regime (Bosch et al, 2004). The basis of using low dose corticosteroid based on this paper has been correlated with KFD associated with a more severe clinical course such as persistent fever, multiple lymphadenopathy and relapsing signs and symptoms. This applies to our patient who received corticosteroids since he has been experiencing unremitting persistent fever for the past 4 weeks.

CONCLUSION

Since KFD is a histopathological diagnosis, arriving to the disease diagnosis may take longer. This case highlights the importance of acknowledging the presence of rare disease and the requirement for a detailed workup to rule out potential differential diagnosis. Although Kikuchi-Fujimoto Disease is considered uncommon with an approximation of 750 cases worldwide, in many instances the condition remains self-limiting and rarely leads to complications. A significant number of cases were diagnosed incidentally while investigating the cause of lymphadenopathy. However, in the Malaysian context, the disease remains extremely rare.

CONFLICT OF INTEREST

The authors affirm that there are no financial, personal, or professional relationships that could be perceived to have influenced the work presented in this article.

ACKNOWLEDGEMENT

No potential conflicts of interest relevant to this article were reported.

CONSENTS

The consent for publication, the usage of

blood investigations, CT images and HPE of the right inguinal biopsy has been obtained from the patient. No funding was provided for this publication.

REFERENCES

Bosch, X., Guilabert, A., Miquel, R. & Campo, E. (2004). Enigmatic Kikuchi-Fujimoto disease: a comprehensive review. American journal of clinical pathology, 122(1); 141-152. https://doi.org/10.1309/YF08-1L4T-KYWV-YVPQ

Fadul, A., Subahi, E.A., Ali, E.A., Awadalkareem, H., Mohamed, G., Elawad, M., Sharaf Eldean, M. & Albozom, A. (2022). Kikuchi-Fujimoto Disease: A Rare Cause of Pyrexia of Unknown Origin and Cervical Lymphadenopathy. Cureus, 14(10), e30823. https://doi.org/10.7759/cureus.30823

Hassan, M., Anees, A. & Zaheer, S. (2009). Kikuchi-fujimoto disease: diagnostic dilemma and the role of immunohistochemistry. Journal of clinical medicine research. 1(4); 244-246. https://doi.org/10.4021/jocmr2009.09.1258

Jagadeesan, S., Rani, S., Porwal, Y.C. & Patel, P. (2022). Lupus and Kikuchi-Fujimoto Disease: A Combination for Catastrophe. Cureus, 14(7); e27423. https://doi.org/10.7759/cureus.27423

Kikuchi, A., Chang, Z. & Gleeson, P.A. (2022). A special issue of IUBMB Life celebrating the 50th anniversary of FAOBMB (1972-2022). IUBMB life, 74(12); 1124-1125. https://doi.org/10.1002/iub.2691

Kucukardali, Y., Solmazgul, E., Kunter, E., Oncul, O., Yildrim, S. & Kaplan, M. (2007). Kikuchi-Fujimoto Disease: analysis of 244 cases. Clinical rheumatology, 26(1); 50-54. https://doi.org/10.1007/s10067-006-0230-5

Lin, H.C., Su, C.Y., Huang, C.C., Hwang, C.F. & Chien, C.Y. (2003). Kikuchi's disease: a review and analysis of 61 cases. Otolaryngology—head and neck surgery: official journal of American Academy of Otolaryngology-Head and Neck Surgery, 128(5);650-653. https://doi.org/10.1016/S0194-59980223291-X

Lo, K.B., Papazoglou, A., Chua, L. & Candelario, N. (2018). Case Report: Kikuchi: The great mimicker. F1000Research, 7;520. https://doi.org/10.12688/f1000research.14758.1

Mohd Nasir, N.F., Draman, N., Mohd Zulkifli, M., Ramza Ramli, R., Tuan Sharif, S.E. & Ilias, M.I. (2021). Kikuchi's Disease in a Patient with Prolonged Fever. International Medical Journal, 28; 391-393.

National Organization for Rare Disorders. (2023). Kikuchi -Fujimoto Disease – Symptoms, Causes, Treatment. https://rarediseases.org/rare-diseases/kikuchis-disease/