PERINTIS eJournal

PERINTIS eJournal, **2022**, Vol. 12, No. 1, pp. 18-22

KIKUCHI-FUJIMOTO DISEASE IN YOUNG PATIENT - A CASE REPORT

Article history

Received:
1 May 2022

Received in revised form:
31 May 2022

Accepted:
15 June 2022

Published online:
30 June 2022

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ABSTRACT

A rare form of lymphadenopathy called Kikuchi-Fujimoto disease (KFD), also known as histiocytic necrotizing lymphadenitis, was discovered in Japan in 1972 by Kikuchi and Fujimoto. It is characterised by persistent fever and localised cervical lymphadenopathy. This disease, typically known as histiocytic necrotising lymphadenitis, primarily affects young individuals. We reported a case of a young Malay female with prolonged fever and cervical lymphadenopathy. Her histopathological diagnosis was consistent with KFD. Nevertheless, she made a remarkable full recovery with a short course of corticosteroids. Therefore, Kikuchi disease must be considered in the differential diagnosis of cervical lymphadenopathy to minimise misdiagnoses and inappropriate therapies, given the rare prevalence.

Keywords: Kikuchi-Fujimoto, lymphadenopathy, histiocytic necrotising lymphadenitis

1.0 INTRODUCTION

KFD is a benign and self-limiting disease [1]. It was initially exclusively recorded from Japan, but it has since been documented in Europe, America, Asia, and the Middle East [2]. Due to its rarity, the condition is typically excluded from the differential diagnosis during patient first presentation. It is characterized by painful cervical lymphadenopathy with fevers, leukopenia, and an elevated erythrocyte sedimentation rate [3]. As known, there are only a few cases of this condition have been documented in Malaysia.

We feel there are numerous obstacles to making this diagnosis, including a lack of clinician knowledge of the condition, limited case reports, vague signs and symptoms, inadequate laboratory support, and the existence of competing diagnoses, particularly tuberculosis in our setting. Here we share a case of a young female patient with KFD.

2.0 CASE REPORT

A 23-year-old Malay lady presented to our emergency department with complaints of relapsing fever for the past month. Her fever was associated with insidious enlargement of neck swellings. She underwent a neck ultrasound examination at a private medical centre before this. The examination revealed multiple enlarged cervical lymph nodes, with the largest node measuring 2.1 cm. She was then discharged with oral antibiotics. However, her condition did not improve.

Her physical examination revealed multiple palpable matted cervical and inguinal lymph nodes. These abnormalities were located predominantly on the left side of her cervical area. No other signs of upper or lower respiratory tract infection were observed. Other examinations were unremarkable, and she had no organomegaly. She was febrile but haemodynamically stable.

Full blood count revealed leucopoenia (1.6 x 10^9/L) and neutropoenia (0.8 1.6 x 10^9/L). Dengue serology and antigen testing were negative. Her erythrocyte sedimentation rate was elevated at 86 mm/Hr, and c-reactive protein measurement was 1.44 mg/dL. Her antinuclear antibody (ANA) test was also negative.

Based on the findings, the differentials diagnosis included lymphoma, tuberculosis lymphadenitis, and autoimmune disease. She underwent an excisional biopsy over the left cervical area. In addition, a computed tomography (CT) scan with contrast of the neck, thorax, abdomen, and pelvis was arranged for her.

She continued to suffer from relapsing-remitting fever throughout the admission and did not respond to empirical antibiotics. The CT scan revealed subcentimeter enlarged lymph nodes in bilateral posterior cervical spaces, supraclavicular, infraclavicular fossa, paracaval, mesenteric, and inguinal areas. There were no significant mediastinal or hilar nodes. No other significant abnormality was identified.

A special stain with Ziehl-Neelsen was used to look for acid-fast bacilli and the results of her sputum test for acid-fast bacilli and Mantoux test were negative. In addition, the results of periodic acid-Schiff (PAS) and Gomori methenamine silver (GMS) for fungal bodies were also negative.

Her left cervical histopathological examination revealed lymph node tissue with partially maintained architecture. Also, residual follicles of the lymph node tissue had reactive germinal centres. In addition, there were patchy areas of necrosis that were irregular in shape and occasionally confluent. These necrotic areas were randomly distributed, forming a wedge-shaped cortical area. The necrosis consisted of numerous apoptotic cells throughout the aggregates of histiocytes admixed with organic waste and fibrin deposit. Aggregates of foamy histiocytes were also noted in those patchy necrotic areas. No neutrophils were seen, and

staining for malignancy was negative. From these biopsy results, we diagnosed the patient with Kikuchi lymphadenopathy.

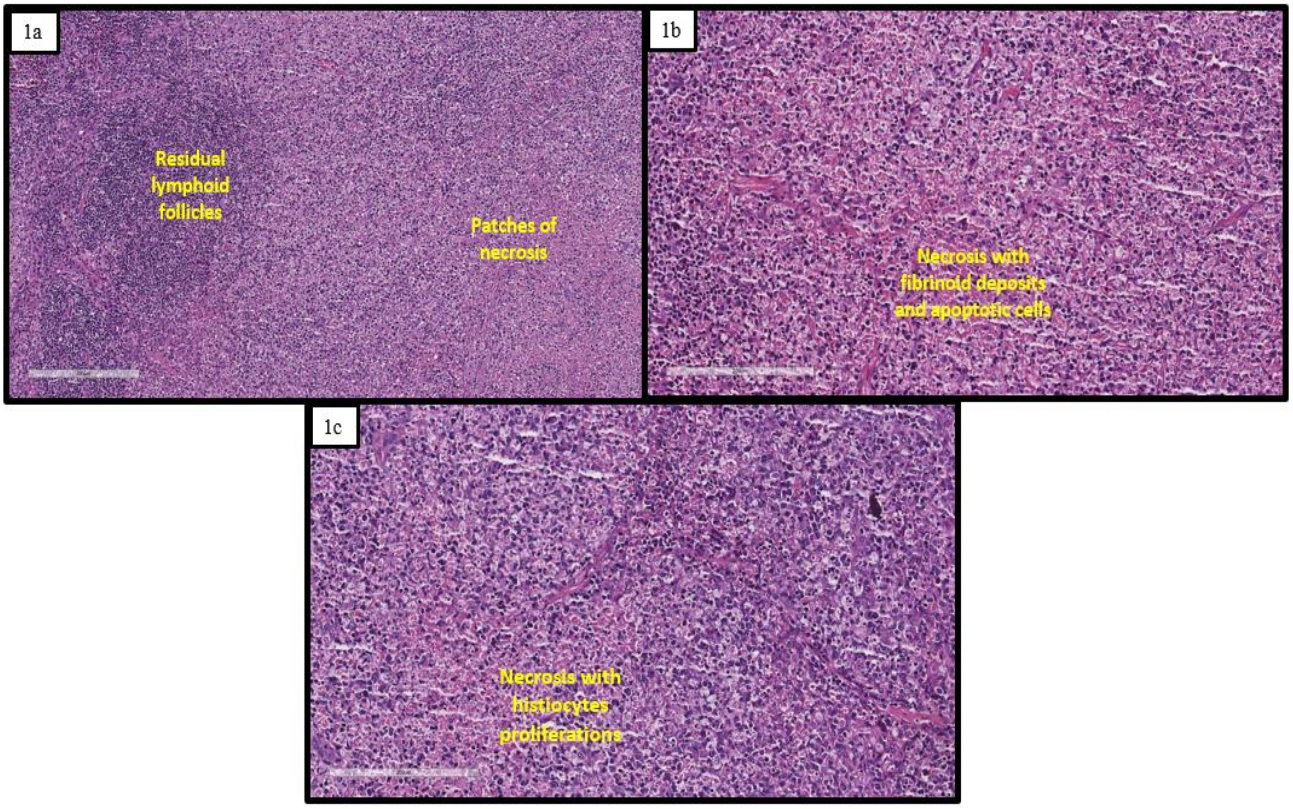

Figure 1 Lymph node biopsy (a) Low-power view shows patches of necrosis with residual lymphoid follicles; (b-c) High-power views show necrosis with fibrin deposits and apoptotic cells and admixed histiocytes and lymphocytes. No neutrophilic or eosinophilic inflammation.

She was started on an oral prednisolone tapering regime for 6 weeks. Following that, her condition improved. Her fever began to subside, and her full blood counts returned to normal before she was discharged. She was under follow-up care at our centre for 6 months, no longer on steroids and was later discharged. Her other autoimmune workup was negative.

3.0 DISCUSSION

The specific pathophysiology of KFD is unknown. However, viral and autoimmune aetiologies have been proposed as possible causes [4]. In addition, the disease has been postulated to be an overt immune response to infectious, physical, or chemical agents and recently after covid-19 vaccination [2]. However, no direct correlation has been established.

Our patient was provisionally diagnosed as probable lymphoma with differential diagnosis of tuberculosis given bicytopoenia with lymphadenopathy. The diagnosis of KFD was made through a histopathological assessment at a later stage. KFD is a rare benign disorder that can often mimic other severe conditions [3].

Fever and lymphadenopathy are the main clinical symptoms of KFD as described in our case. Other presentation includes maculopapular rash and hepatosplenomegaly [5]. Although KFD is considered benign, the considerable morbidity and frequent hospitalisation may be related to misdiagnosis with other lymphoproliferative illnesses, connective tissue diseases, or infectious aetiologies [6]. The prevalence of KFD among the Japanese and East Asian populations is the highest [7], however data on the prevalence of KFD in the Malaysian population is insufficient. Supplementary case reports worldwide have reported the emergence of KFD.

Despite its global presence, KFD remains a poorly understood disease. A literature review revealed that Kikuchi-Fujimoto disease has previously been associated with concurrent asthma and other allergy-related conditions (such as allergic rhinitis). Additionally, connections with other autoimmune conditions like Sjogren's syndrome and systemic lupus erythematosus (SLE) have been reported [8].

KFD typically follows a benign course, as illustrated in this case. Additionally, KFD does not have any particular diagnostic or radiological features. Therefore, it is difficult to distinguish it from other differential diagnoses. Usually, the final diagnosis was made through the histopathological examination of lymph node tissues. We learned through our case that excisional lymph node biopsy is essential for an early diagnosis to differentiate between lymphoma, tuberculosis and KFD. There are no laboratory tests solely for diagnosing KFD. From a histopathological perspective, as illustrated in the histopathological examination of this case, KFD is typically characterised by necrosis of cortical and paracortical regions with lymphoreticular infiltrate and lack of neutrophils [9].

Treatment protocols for KFD have not been established, and recommendations for its treatment depend primarily on previous case studies and physician opinions. Supportive treatment is the most common method in managing KFD because of its self-limiting nature. Corticosteroids, non-steroidal anti-inflammatory medication, and antipyretics may treat KFD patients [10].

4.0 CONCLUSION

In conclusion, this case report showed the importance of lymph node biopsy in diagnosing KFD and differentiating it from other diseases. It is also noteworthy that KFD is a benign disease that mimics other malignant disorders. Therefore, early detection of KFD is imperative for the effectiveness of KFD treatment.

5.0 ACKNOWLEDGEMENTS

We would like to thank all clinicians, the patient, and her family for providing us with the clinical information. Furthermore, verbal informed consent was obtained from an authorised representative before the study.

6.0 CONFLICT OF INTEREST

The authors declare no conflict of interest.

7.0 FUNDING STATEMENT

This case report did not receive any specific funding.

8.0 ETHICAL APPROVAL ISSUE

Not applicable

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