CASE REPORT

Primary splenic hodgkin lymphoma masquerading as splenic abscess

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SUMMARY

Hodgkin lymphoma is a form of malignant lymphoid neoplasm. It can have various clinical presentations such as prolonged fever, night sweats, weight loss and asymptomatic lymphadenopathy. It has a distinct fever pattern known as Pel Ebstein fever. However, in some instances, its clinical presentation can mimic some tropical infections. Here, we present a case of primary splenic lymphoma masquerading as splenic abscess in a 53-year-old man with underlying dyslipidemia.

INTRODUCTION

Hodgkin lymphoma (HL) is a malignant lymphoid neoplasm that can involve nodal and extra-nodal sites. Spleen is one of the extra-nodal organs that can be involved initially in 30% of the cases. Broadly, HL can be divided into two categories, namely classical HL and nodular lymphocyte predominant HL. Clinically, HL can be of various presentations. In some instances, HL may mimic infections especially in patients who present with B-symptoms in the absence of lymphadenopathy. Here, we reported a case of primary splenic Hodgkin lymphoma masquerading as splenic abscess.

CASE PRESENTATION

A 53-year-old man with underlying dyslipidemia presented to the Hospital Queen Elizabeth, Sabah, Malaysia complaining of fever for 2 weeks associated with anorexia and weight loss of 10 kg for the past one year. He denied respiratory or gastrointestinal symptoms. He has no night sweats. On examination, he was pale with splenomegaly 5cm below left costal margin. There was no hepatomegaly or peripheral lymphadenopathy. Other systemic examinations were unremarkable.

His initial blood investigations revealed bicytopenia with hemoglobin of 8.2 g/dl and total white cell of 3.88x109/L and raised inflammatory makers with C-reactive protein 115 mg/L and erythrocyte sedimentation rate 68 mm/Hour. His serum lactate dehydrogenase was 313 IU/ml with negative human immunodeficiency virus serology (Table I). Peripheral blood film reported no leucoerythroblastic picture and no circulating blast cells. A contrast-enhanced computed tomography (CT) abdomen revealed splenomegaly with multiple ill-defined splenic collections largest measuring 3.3x3.9x4.6 cm with no lymphadenopathy (Figure 1). He was empirically treated as melioidosis with splenic abscess as melioidosis is endemic in Sabah. Blood cultures were negative for bacteria, fungal and tuberculous infection.

Despite being 8-weeks on intravenous antibiotics, there was no clinical improvement with persistent fever, bicytopenia and non-resolving splenic collections on repeated imaging. In view of persistent bicytopenia and fever, a bone marrow aspirate and trephine biopsy was done. Bone marrow aspirate showed no abnormality but his trephine biopsy showed numerous interstitial infiltrate of small to medium sized lymphoid cells forming no aggregate or nodule, admixed with pale histiocytic cells. Sprinkles of large atypical cells were also observed and these cells were CD30+ with heterogenous PAX5- to dim PAX5+ (Figure 2). Hence, the findings confirmed the diagnosis of classical Hodgkin lymphoma with bone marrow infiltration. Patient was then started on chemotherapy consisting of Adriamycin, Bleomycin, Vinblastine and Dacarbazine (ABVD). He responded clinically with resolution of fever and improvement of blood parameters. Interval CT scan showed almost complete resolution of splenic lesions after 3 cycles of chemotherapy. He subsequently completed 6 cycles of chemotherapy and under follow up of hematology unit since then.

DISCUSSION

HL accounts for approximately 10% of all known lymphomas. Clinically, most patients present with asymptomatic lymphadenopathy. Some patients may present with fever of unknown origin. Fever in HL exhibits with a distinctive pattern known as Pel-Ebstein fever. Pel-Ebstein fever typically occur at 7 days interval. On the other hand, bone marrow infiltration of HL at diagnosis represents stage IV disease and it is uncommon, ranging between 2% and 32% with average incidence of 10%.[1] In fact, HL with bone marrow involvement is often associated with extensive disease and significant lymphadenopathy.

B-symptoms of Hodgkin lymphoma can masquerade as infectious process and have previously been described as initial presentation in clinically unsuspected HL.[2] The presentation of fever, weight loss can mimic any infectious

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Table I: Investigation chart of the patient

Parameters	Results 31/03	03/04	10/04	15/04	29/04	06/05	Unit	Normal Range
Hemoglobin	8.2	7.2	8.5	8.5	7.6	8.9	g/dL	13 – 18
Total White Blood Cell	3.88	3.03	3.78	3.37	3.43	2.69	109/L	4 – 10
Platelet	198	200	240	264	178	233	109/L	150 – 400
Hematocrit	27.5	21.8	30	26.6	25.6	28.8		40 - 54
Sodium	133	136	135	133	127	136	mmol/L	135 – 145
Potassium	3.7	4.1	4.2	4.1	4.1	4.6	mmol/L	3.5 – 5
Urea	3.3	3.1	3.1	3.5	3.1	3	mmol/L	2.8 – 7.8
Creatinine	62.5	59.6	61.3	65.7	52.7	56.4	µmol/L	90 – 110
Total bilirubin	7.1	10.5		8.1	12.1	9.9	µmol/L	0 – 17.1
ALT	15	19		36	10	21	U/L	<40
Alb	30	26		29	25	29	g/L	34 – 48
Glo	38	32		46	37	39	g/L	20 – 35
ALP	94	98		170	112	133	U/L	40 - 129
ESR	68				100		mm/h	<10
CRP	115		85	137	96		mg/L	<10
LDH	313						iU/L	70-250
Lactate	1.6						mmol/L	0 – 2
Blood culture	No Growth (NG)		NG	NG	NG			
Blood Fungal Culture	No Growth (29/04)							
Blood M. Tuberculosis culture				NG				
HIV Serology	Non-reactive							
Blood Smear Malaria Parasite	Negative x3 (31/4,1/4, 2/4)							

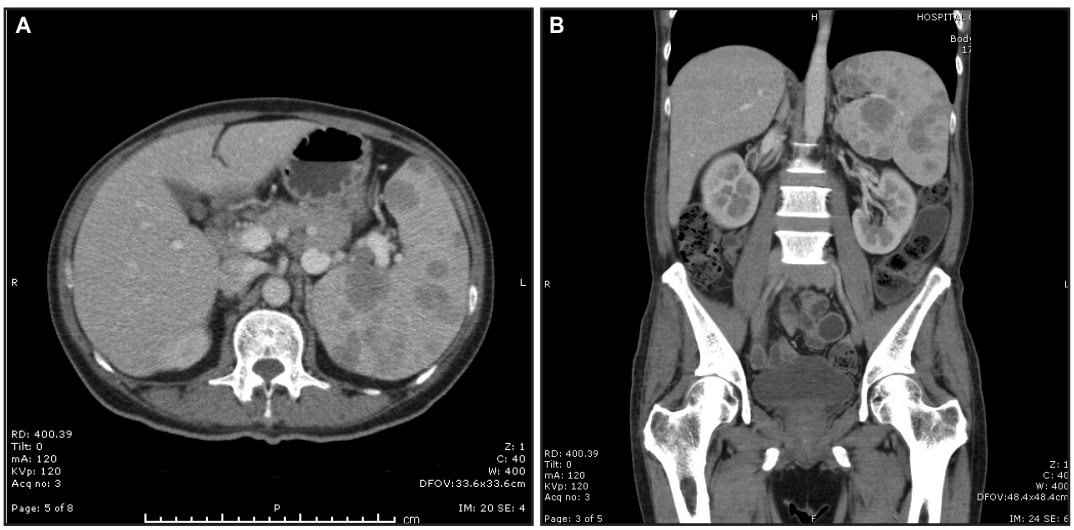

Fig. 1: (A&B) Multiple ill-defined hypodense lesions throughout the enlarged spleen.

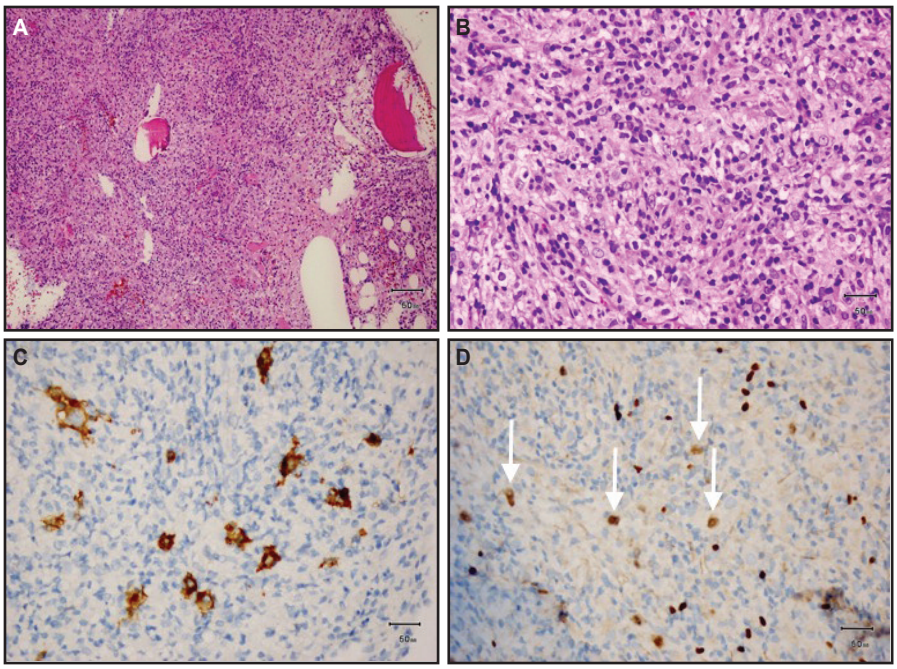

Fig. 2: (A): Trephine biopsy showing hypercellular marrow for age with presence of fibrosis. Original magnification: x100. (B): The abnormal large lymphoid cell. Original magnification: x400. (C): Hodgkin's cell showing positive CD30 immunohistochemical staining. Original magnification: x400. (D): Hodgkin's cell that show weak PAX5 immunohistochemical staining; white arrow. Original magnification: x200 Note: The abnormal lymphoma cell will show weak or dim PAX5. The normal lymphoid or mature B cells will show strong staining.

process. In addition, the differential diagnosis of splenomegaly can vary from benign to malignant process. The diagnosis of HL often require a histopathological examination. Excisional biopsy of lymph node is often recommended because lymph node architecture is important for histological classification. Classically, Reed-Sternberg cells can be seen on histological examination. Bone marrow biopsy is sometimes needed especially in patients with pyrexia of unknown origin. There has been a case series reported wherein clinically unsuspected Hodgkin diseases were primarily diagnosed from bone marrow trephine biopsy as part of PUO workup.[3]

Prolonged fever is a common and intriguing clinical problem that we face in our daily practice. It can be caused by various aetiologies such as neoplasia, infection, autoimmune, drug and etc. The diagnosis of the cause will need complete diagnostic evaluation. In our case, the diagnosis of HL was particularly difficult due to uncommon presentation of fever, constitutional symptoms and the absence of significant lymphadenopathy. This was further confounded by multiple splenic collections which in turn resembled tropical infections such as melioidosis or tuberculosis. Both tuberculosis and melioidosis can manifest as splenic abscess.[4] Furthermore, cytopenia is common in infection and CT imaging cannot reliably differentiate splenic lesion as either abscess or lymphoma.[5] Hence, a high index of suspicion is vital for disease like lymphoma when a patient fails to respond to antimicrobial therapy.

CONCLUSION

In conclusion, our case highlights the importance of diagnostic evaluation in patients with prolonged fever. Prolonged fever can be caused by infection, malignancy or autoimmune disease. In the presence of cytopenia with splenic abscess-like lesion with no microbiology evidence of sepsis, lymphoma should be considered as a differential diagnosis. Bone marrow examination should be done in such cases.

Conflict of Interests

The author declares that they have no conflict of interests.

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