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Case Report

Multicentric Castleman's disease mimicking extrapulmonary tuberculosis

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ABSTRACT

Castleman disease is a rare proliferative lymph node disease with distinct histopathological features that manifest without any obvious symptoms. In high HIV prevalent areas Castleman's disease pose diagnostic difficulties due to resemblance with other etiologies of lymphadenopathy. We report a case of a 58-year-old man who presented with complain of generalized body malaise and easy fatigability. Examination findings revealed left posterior cervical and bilateral axillary lymphadenopathy with CT scan of the abdomen showing generalized lymphadenopathy. Excisional lymph node biopsy was done and histology findings confirmed multicentric Castleman's disease. This case illustrates that Castleman's disease though rare can easily be confused with mimics such as tuberculosis in HIV patients.

Keywords: Castleman's disease, HIV, Extrapulmonary Tb

INTRODUCTION

Castleman's disease (CD) is an uncommon lymph node disease characterized by distinctive histopathological features. At first described by Dr. Benjamin Castleman in the 1950[1] CD manifests in various forms, notably unicentric CD (UCD) and multicentric CD (MCD). Multicentric castleman's disease is classified into various subtypes which include human herpes virus-8-associated (HHV8-MCD), idiopathic, polyneuropathy, organomegaly, endocrinopathy, monoclonal plasma cell disorder, skin changes (POEMS)-associated MCD.[2]

There has been a very close association of MCD with HIV, which puts immunosuppression as one of the risk factors.[3] Studies have shown HHV-8 is an important causative agent of MCD, the pathophysiological mechanism is through dysregulation of inflammatory mediators like interlukin-6 and CD-20. Nearly all cases of HIV-associated MCD were co-diagnosed with HHV 8, compared with only half of non-HIV MCD.[4] This case brings to attention the potential misdiagnosis of CD in patients with HIV who have a similar presentation with extra-pulmonary TB.

CASE REPORT

Patient and observation

Patient information

A 58-year-old male with a history of retroviral disease (RVD), managed on a regimen of Tenofovir Disoproxil Fumarate/Lamivudine (TDF/3TC) and Dolutegravir (DTG), presented with a 2-week history of generalized body malaise and easy fatigability.

He had an associated history of night sweats and significant weight loss but no cough. The patient was initiated on anti-tuberculosis medication for 3 weeks without improvement in the clinical status which prompted further evaluation.

Clinical findings

General examination revealed moderate pallor and a palpable left posterior cervical lymph node measuring 2×2 cm and bilateral axillary lymphadenopathy largest 2 by 2 cm. The Systemic examination was unremarkable.

Diagnostic assessment

Laboratory investigations revealed severe anemia of 6 (g/dl) with normal other parameters. Peripheral blood film (PBF) analysis showed Erythrocytopaenia and normocytic normochromic characteristics. The patient's CD4 count was 240. Gastrointestinal endoscopic study was unremarkable. Abdominal CT scan showed generalized lymphadenopathy, including enlarged bilateral inguinal, pelvic, mesenteric, para-aortic, and bilateral axillary lymph nodes.

Histopathology study of the lymph node showed greyish node with atretic germinal centre and sclerotic vessels with areas of hyalinization, mantle zones were thickened with lymphocytes arranged in concentric layers resembling onion skin appearance. Interfollicular areas had extensive vascular proliferation there was clusters of plasmacytoid dendritic cells.

Diagnosis

Presumptive diagnosis of extrapulmonary tuberculosis was made based on the clinical features. Final diagnosis of multicentric castleman's disease was made based on the histopathological findings.

Informed consent

Written informed consent from the family was obtained.

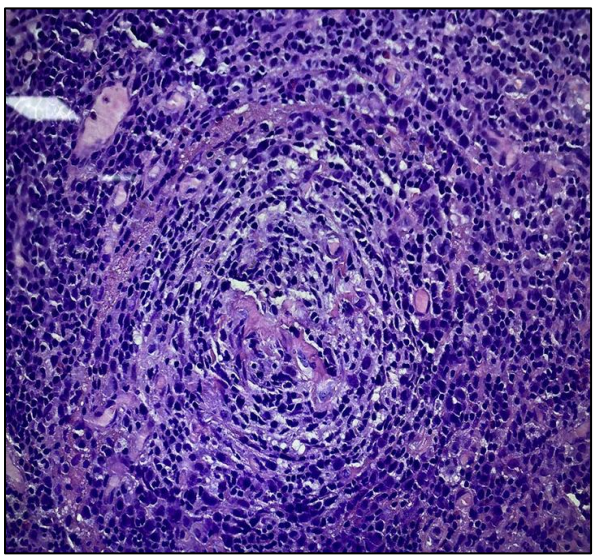

Figure 1: Atretic germinal centre, thickened mantle zone with concentric (onion skin) pattern, sclerotic vessels with areas of hyalinization (H&E X40).

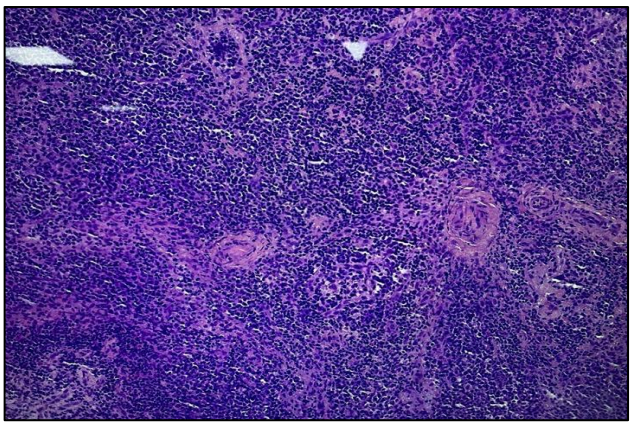

Figure 2: Interfollicular areas with extensive vascular proliferation.

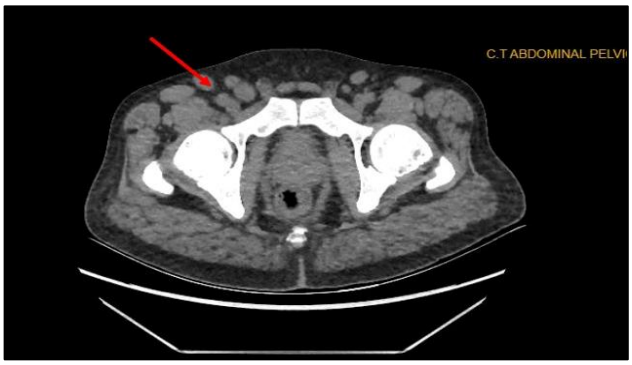

Figure 3: CT scan pelvis showing inguinal lymphadenopathy.

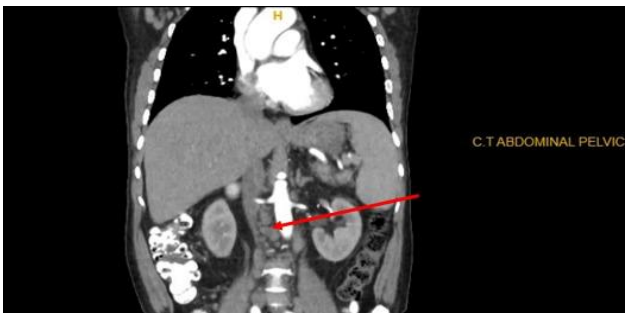

Figure 4: CT scan abdomen showing para-aortic lymphadenopathy.

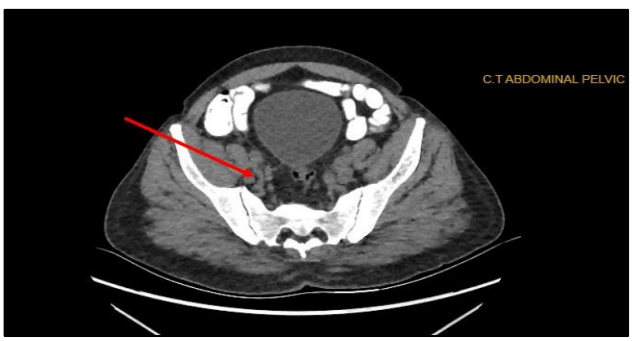

Figure 5: CT scan pelvis showing lymphadenopathy.

DISCUSSION

Castleman's disease (CD) is an uncommon lymph node disease with unique histopathological characteristics, at first described by Dr. Benjamin Castleman in the 1950.[1] To our knowledge this is the first documented case of MCD in Kenya. MCD classically presents with lymphadenopathy which affects several lymph-node regions and also presents with constitutional symptoms such as weight loss, fatigue and fever which are driven by inflammatory mediators majorly interleukin-6.[5] In this case the patient had HIV-associated MCD with a positive HHV-8, this is in keeping with a retrospective cohort study done in Germany where triad of HIV, MCD and HHV-8 commonly occur together.[6]

In our case the patient was initially misdiagnosed and treated for extrapulmonary TB for 3 weeks. Missed diagnosis can be common due to overlapping clinical presentation, a retrospective case series on lymph node samples done in Uganda showed viral positivity for interleukin-6 and latency associated nuclear antigen test in keeping with a misdiagnosed MCD.[7] Extrapulmonary TB has a high prevalence in Sub-Saharan Africa and is one of the HIV defining opportunistic infections with the most common presenting clinical features being lymphadenopathy.[8,9]

The other common manifestation includes night-sweats and weight loss.[10] MCD has similar presentation to extra-pulmonary TB and missed cases of MCD are sometime empirically treated as EPTB.[11] This case emphasizes the importance of high index of suspicion of MCD particularly in areas with high prevalence of HIV and TB. MCD is on the rise in HIV patients and should be considered as an important differential diagnosis. A study done in London showed that MCD has been on the rise despite the widespread use of anti-retroviral therapy, comparatively the incidence of opportunistic infections like Kaposi's sarcoma are on a downward trend.[12]

CONCLUSION

This case emphasizes the significance of consideration of extrapulmonary TB mimics in HIV patients and the need for definitive histological diagnosis in patients who are not improving on anti TB treatment.

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REFERENCES

1. Castleman B, Iverson L, Menendez V. Localized mediastinal lymph-node hyperplasia resembling thymoma. Cancer. 1956;9(4):822–30.
2. Dispenzieri A, Fajgenbaum DC. Overview of Castleman disease. Blood. 2020;135(16):1353–64.
3. Stebbing J, Pantanowitz L, Dayyani F. HIV-associated multicentric Castleman's disease. American J Hematol. 2008;83(6):498–503.
4. Ehsan N, Zahra F. Castleman disease. StatPearls. 2024. http://www.ncbi.nlm.nih.gov. Accessed on 6 August 2024.
5. Gündüz E, Kırkızlar HO, Ümit EG. Castleman disease: a multicenter case series from turkey. Turkish J Hematol. 2022;39:130-5.
6. Gliga S, Orth H M, Lübke N. Multicentric Castleman's disease in HIV patients: A single-center cohort diagnosed from 2008 to 2018. Infection. 2021;49(5):945–51.
7. Engels E A, Mbulaiteye SM, Othieno E. Kaposi sarcoma-associated herpesvirus in non-Hodgkin lymphoma and reactive lymphadenopathy in Uganda. Human Pathology. 2007;38(2):308–14.
8. Hailu S, Hurst C, Cyphers G. Prevalence of extra-pulmonary tuberculosis in Africa: A systematic review and meta-analysis. Tropical Med Inter Health. 2024;29(4):257–65.
9. Rolo M, González-Blanco B, Reyes CA. Epidemiology and factors associated with Extra-pulmonary tuberculosis in a Low-prevalence area. J Clin Tubercul and Other Mycobact Dis. 2023;32:100377.
10. Barss L, Connors W J, Fisher D. Extra-pulmonary tuberculosis. Canadian J Resp Crit Care and Sleep Med. 2022;6(1):87–108.
11. Patel M, Philip V, Lakha A. Multicentric castleman's disease. In Immunopathology and Immunomodulation. Haematologica. 2019;104(5):215-7.
12. Powles T, Stebbing J, Bazeos A. The role of immune suppression and HHV-8 in the increasing incidence of HIV-associated multicentric Castleman's disease. Ann Oncol. 2021:20(4):775–9.

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