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Case Report

Simultaneous occurrence of Kaposi sarcoma and tuberculosis; Kaposi sarcoma and lymphoma in the same lymph node: a report on two HIV-positive patients from Zimbabwe

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Abstract

Reports of simultaneous infections and neoplasms in patients with acquired immune deficiency syndrome (AIDS) are occasionally seen in the literature. However, coexistent lymphoma with tuberculosis, and Kaposi sarcoma (KS) with tuberculosis occurring in the same lymph node is rare. Coexistent lesions pose diagnostic difficulties. In this article, we report two HIV-positive patients from Zimbabwe who displayed KS and tuberculosis; KS and diffuse large B-cell lymphoma in the same lymph node. We found only one similar case presentation in the literature, which was reported in India.

Keywords: Collision tumor in the lymph node. HIV. Zimbabwe.

INTRODUCTION

Collision tumors constitute a rare clinical entity where two different tumors or lesions present separately on the same organ without any connection between them.

Cases demonstrating an incidental and simultaneous occurrence of two different tumors on the same organ have been occasionally described[1,2].

The simultaneous occurrence of two separate lesions in the same lymph node is rare. Cases of two different tumors, one metastatic and one primary tumor or one metastatic tumor and an inflammatory lesion detected simultaneously have been reported[3,4]. However, cases with one primary tumor and one tuberculosis or two primary tumors observed together in the lymph node have been described infrequently[5,6].

This manuscript outlines two cases presenting two separate lesions in the same lymph node of the neck identified by the author when he was working at the Department of Pathology at the School of Medicine, University of Zimbabwe, as a "visiting lecturer".

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Both cases were HIV-positive. One had Kaposi sarcoma (KS) and tuberculosis (TB) in the lymph node, while the other had KS with diffuse large-B cell lymphoma (DLBCL) located adjacently in the lymph node.

CASE REPORT

Case 1

A 25-year-old male patient was admitted to the clinic with a mass of 3 cm diameter on the right side of his neck. The mass was totally excised based on the preliminary diagnosis of an enlarged lymph node and sent for pathological evaluation. There was no information other than "retrovirus positivity" on the pathology request form, including the CD4 cell count. To protect patient privacy, it was not appropriate to explicitly write "HIV-positive" on the pathological request; therefore, the term "retrovirus positivity" was used instead. Granulomatous structures composed of caseous necrosis, Langhans-type giant cells and epithelioid histiocytes in one half of the lymph node were observed in the histologic sections **(Figure 1A)**. A group of bacilli was identified using acid-fast bacilli stain **(Figure 1B)**. This part of the tumor was diagnosed as caseified TB. Infiltration characterized by spindle-cell proliferation containing minimal atypia was observed in the other half of the lymph node. Vascular slits, extravasated erythrocytes, and hemosiderin macrophages were noted inside the infiltration

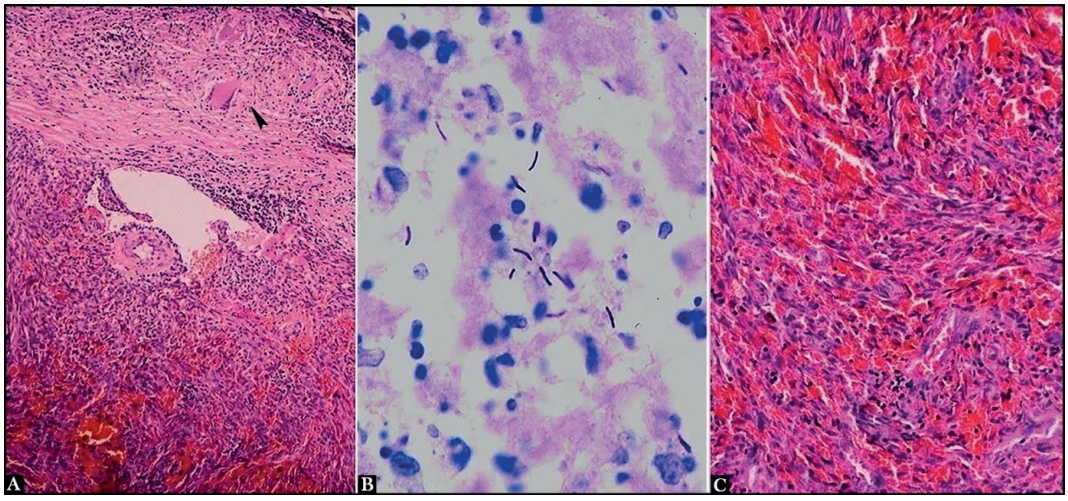

FIGURE 1: (A) Lymph node microscopy showing areas with granulomas (arrowhead) in the upper part and an area with vascular proliferation in the lower part (hematoxylin andeosin, 200×); (B) An area with caseous necrosis showing numerous acid-fast bacilli (acid-fast Ehrlich-Ziehl-Neelsen stain, oil immersion,600×); (C) A lesion consisting of spindle cell proliferation forming vascular spaces with slit-like spaces and extravasated erythrocytes (hematoxylin andeosin,200×).

(Figure 1C). The vessel endothelium was stained positively with CD34. The lesion was deemed compatible with KS. KS and TB in the lymph node were localized adjacently in this case without any connection to one another.

Case 2

A 30-year-old male patient was admitted to the hospital with a palpable, hard mass in the neck area. A mass of 2.5 cm was totally excised and sent for pathological evaluation. There was no information other than "retrovirus positivity and a mass in the neck" on the pathology request form.

Two different histological conditions were observed on the histologic section of the lymph node **(Figure 2A)**. A vascular structure as described in the previous case was noted in one half of the lymph node **(Figure 2B)**. Diffuse, large, atypical round lymphoid infiltrations were present at the end of the structure **(Figure 2C**).

There was a thin margin between the lesions, but they were not connected to one another. The vascular structure was CD34+, while the lymphoid structure was CD20+ **(Figure 3A, B)**. The KS and diffuse large B-cell lymphoma (DLBCL) presented in the same lymph node in a synchronized manner. A limited number of immunohistochemical (IHC) markers were found in the histopathology laboratory. Therefore, it was not possible to apply a more detailed IHC panel. Acquiring IHC assistance from external institutes has not been attempted.

DISCUSSION

Although there have been a few reports of simultaneous infections and neoplasms in patients with acquired immune

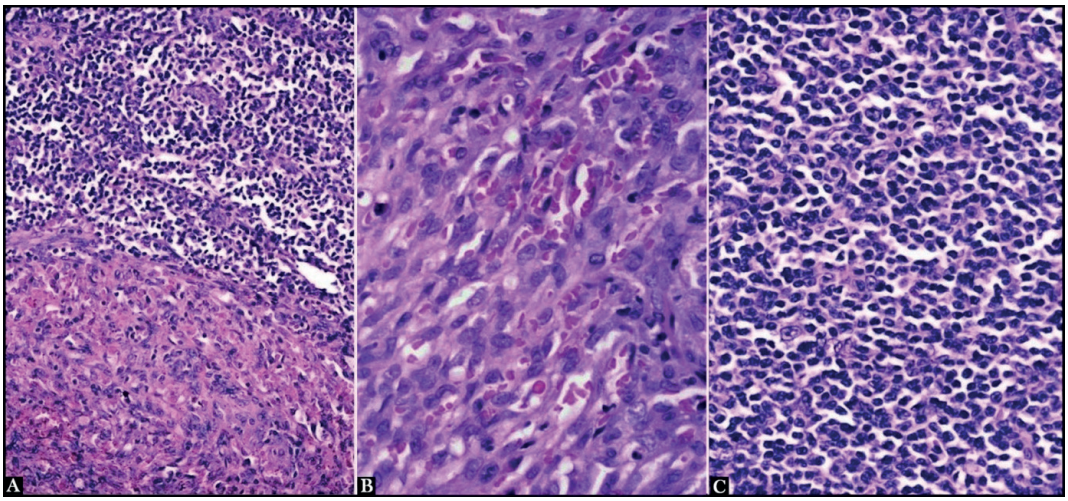

FIGURE 2: (A) Histology of the lymph node showing two separate lesions.The upper part shows a diffuse lymphocytic infiltration, while the lower halfis composed of a different lesion with cells forming vascular spaces (hematoxylin and eosin, 200×). (B) Histopathology revealed a monomorphic vascular proliferation consistent with Kaposi's sarcoma (hematoxylin and eosin, 200×).(C) The area showing diffuse monomorphic large-cell lymphoid infiltration (hematoxylin and eosin, 200×).

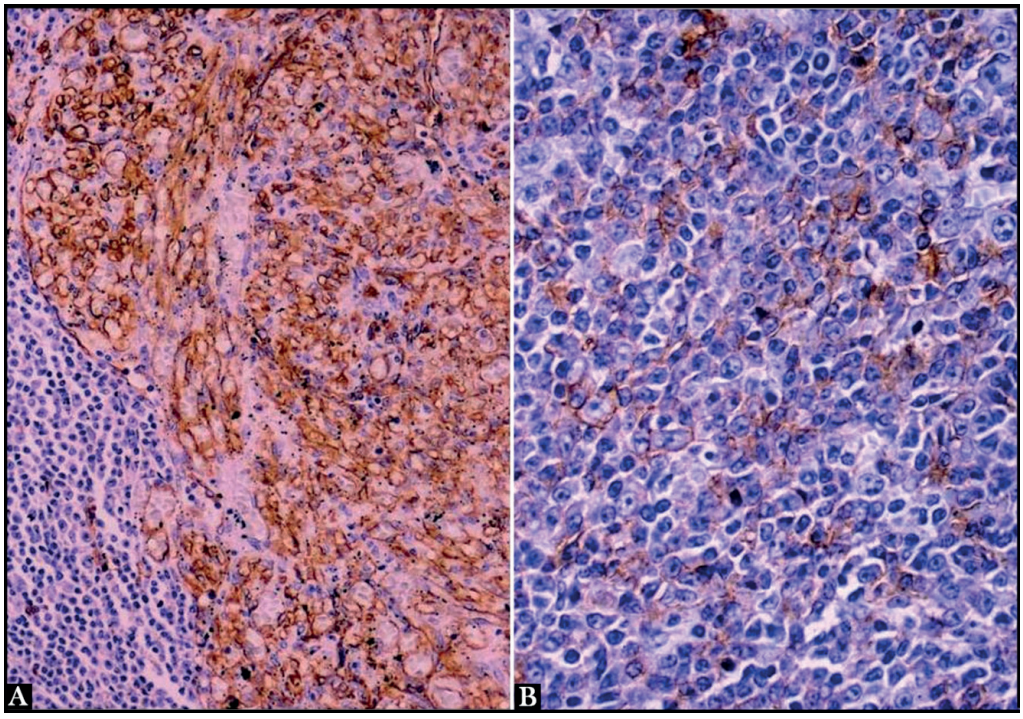

FIGURE 3: (A) Lesional cells were positive for the nonspecific endothelial marker CD34 in Kaposi sarcoma (immunohistochemical stain,200×). (B) Diffuse large-cell lymphoma showing positivity for CD20, which is a B-cell marker (immunohistochemical stain,200×).

deficiency syndrome (AIDS), reports of coexistent KS with lymphoma, and KS with TB occurring in the same lymph node are very rare. A literature search revealed one report similar to ours describing two AIDS cases from India; both presented with a lymph node, but one had lymphoma + KS and the other had KS + TB[7].

Both of our cases were HIV-positive adult patients, and the site of involvement was a cervical lymph node. Each of the types of collision lesions in the lymph nodes of these two cases is among the most important health issues in Zimbabwe.

Zimbabwe is ranked as having high HIV prevalence among countries in sub-Saharan Africa. According to 2017 figures, 13.3% of the population is HIV-positive[8].KS is the most prevalent tumor in Zimbabwe[8]. The HHV8/Kaposi sarcoma-associated herpes virus (KSHV) is responsible for this tumor. A direct association has been demonstrated between the prevalence of KSHV and the incidence of KS in Africa. It has been reported that the HIV Tat protein stimulates KSHV[9].

HIV-infected individuals have a risk of TB that is 20-fold greater than that of HIV-seronegative individuals in countries with high HIV prevalence. HIV is the greatest risk factor for TB. HIV coinfection is reported to be present in 68% of Zimbabwe's TB cases[10].

In conclusion, disordered cellular immunity caused by AIDS might play a role in the co-occurrence of KS + TB and KS + DLBCL in the two studied HIV-positive cases. Diagnosis of such cases with the simultaneous occurrence of two distinct histologies is challenging. This very unusual finding can be regarded as more than coincidental owing to the relatively frequent concurrence of each disease in Zimbabwe.

The author met with the referred patients during daily routine histopathological diagnostic procedures over a 9-month period. Coexistent lesions pose diagnostic difficulties. Accurate diagnoses of coexisting lesions have implications for the therapeutic management of patients with AIDS.

A survey of the literature found only one report similar to ours, which described two cases from India[7]. However, it might be possible to detect similar cases by performing a more detailed screening of archives over a longer time period in Zimbabwe, as well as in other countries with high rates of HIV infection.

Conflict of interest

The author declares that there are no conflicts of interest.

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