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CASE REPORT

Plasma-cell type Castleman's disease of the neck and lymphocyte-depletion Hodgkin lymphoma associated with intestinal intussusception in an AIDS patient

Chung-Hsu Lai [a,b], Jen-Wei Tsai [c], Jiun-Nong Lin [a,b], Pei-Min Hsieh [d], Hsi-Hsun Lin [a,e,*]

[a] *Division of Infectious Diseases, Department of Internal Medicine, E-Da Hospital/I-Shou University, Kaohsiung County, Taiwan, ROC*
[b] *Graduate Institute of Medicine, College of Medicine, Kaohsiung Medical University, Kaohsiung City, Taiwan, ROC*
[c] *Department of Anatomic Pathology, E-Da Hospital/I-Shou University, Kaohsiung County, Taiwan, ROC*
[d] *Division of General Surgery, Department of Surgery, E-Da Hospital/I-Shou University, Kaohsiung County, Taiwan, ROC*
[e] *Institute of Clinical Medicine, National Yang-Ming University, Taipei, Taiwan, ROC*

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KEYWORDS
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A 36-year-old man was diagnosed with plasma-cell type Castleman's disease with the presentation of recurrent lymphadenpathy of the neck. HIV infection was not suspected or confirmed until esophageal candidiasis developed one year later. Meanwhile, surgery was performed for intestinal intussusception and obstruction caused by lymphocyte-depletion Hodgkin lymphoma. However, he died of rapidly progressive pneumonia and disseminated intravascular coagulation associated with intracerebral hemorrhage, which occurred 6 months later during the course of chemotherapy. This case suggests that HIV infection should be considered in patients who present with plasma-cell type Castleman's disease or lymphocyte-depletion Hodgkin lymphoma with extra-nodal involvement in order to conduct appropriate diagnosis and initiate treatment for HIV infection.

* Corresponding author. Division of Infectious Diseases, E-Da Hospital/I-Shou University, 1, E-Da Road, Jiau-Shu Village, Yan-Chau District, Kaohsiung City 824, Taiwan, ROC.
E-mail address: ed100233@yahoo.com.tw (H.-H. Lin).

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Introduction

Castleman's disease (CD) is a rare lymphoproliferative disorder associated with Kaposi's sarcoma-associated herpesvirus (KSHV), which is also known as human herpesvirus-8 (HHV-8).[1] Histologically, it is divided into hyaline vascular type and plasma cell type, with the latter as the most common type in patients with HIV infection.[2,3] After the introduction of highly active antiretroviral therapy (HAART), the incidence of AIDS-defining malignancy such as non-Hodgkin lymphomas (NHL) and Kaposi's sarcoma decreased.[4] In contrast, the incidence of HIV-associated Hodgkin lymphoma (HL) increased.[5,6] Herein, we present a case of HIV infection and plasma-cell type CD in a patient whose HIV infection was not suspected until esophageal candidiasis developed one year later. Subsequent course was complicated with intestinal obstruction caused by lymphocyte-depletion HL.

Case report

A 36-year-old man had undergone excisional biopsy of the lymph node at the otolaryngological department of another hospital twice for recurrent nontender lymphadenopathy of the right neck for one year. He denied fever, weight loss, edema, lymphadenopathies at other body sites, or other discomfort. The histopathology of the biopsy was plasma-cell type CD. The immunohistochemistry (IHC) stain for HHV-8 latent nuclear antigen (LNA) was negative. Detection of HHV-8 in blood specimen was not performed at that time. Regular follow-up was recommended by the otolaryngologist. He visited our hospital due to progressive odynophagia and epigastralgia, and upper gastrointestinal endoscopy revealed esophageal candidiasis. HIV infection was confirmed by western blot test. The plasma HIV viral load was 71522 copies/ml and CD4 count was 178/μL. HAART with zidovudine, lamivudine, and nevirapine was initiated. Only few lymph nodes at the neck region were revealed by computed tomography (CT) of the neck and chest. The pathology of the excised lymph nodes did not revealed malignant cells, but lymphoid hyperplasia. One week later, however, abdominal cramping pain with bilious vomiting occurred. Abdominal CT showed segmental nodulated mucosal thickening in the small bowel loop and terminal ileum with suspected ileocolic intussusception (Fig. 1A). An operation was performed to reveal a tumor at the distal ileum causing intussusception and a large tumor at the jejunum causing nearly total intestinal obstruction (Fig. 1B and C). The pathology of the tumor was lymphocyte-depletion HL, which was positive for Epstein-Barr virus (EBV)-encoded RNA (Fig. 1D). Bone marrow examination was negative for malignancy. The patient recovered well from the operation and started to receive chemotherapy and HAART at the outpatient department after discharge. However, he was hospitalized due to persistent fever and dyspnea that developed 5 months after discharge. A rapidly progressive pneumonia developed with respiratory failure, despite use of broad-spectrum antibiotics for community-acquired and healthcare-associated bacterial infections, atypical pneumonia, candidiasis, and *Pneumocystis jirovecii* pneumonia. The sputum

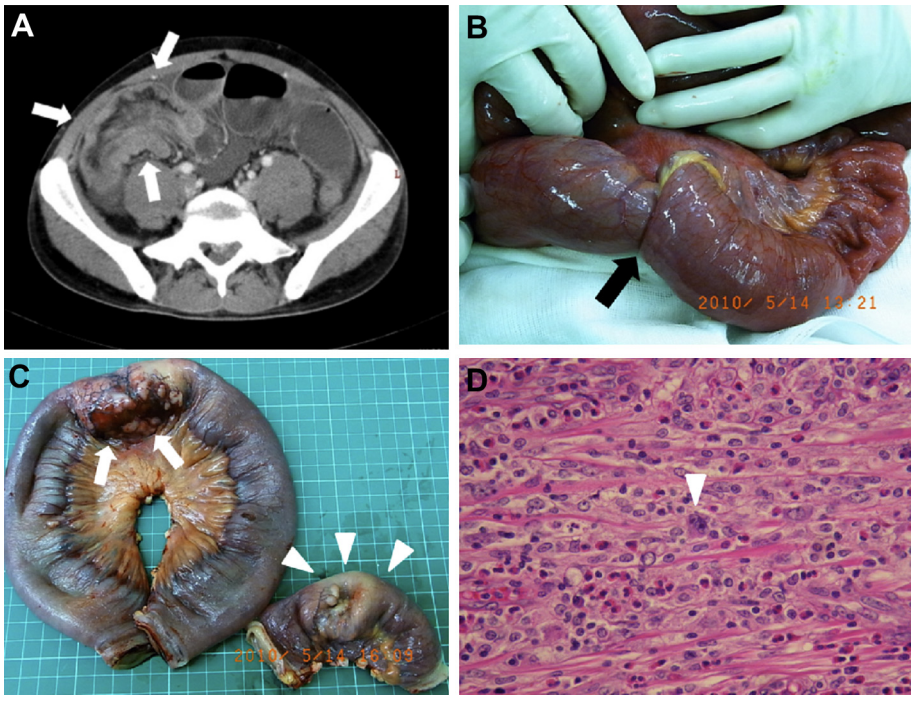

Figure 1. (A) Computed tomography of the abdomen revealed suspected ileocolic intussusception (white arrows). (B) Distal ileum intussusception was found during operation (black arrow). (C) Tumor nodules are noted at the intussusception site of the resected distal ileum (white arrowheads) and one large jejunum tumor causing nearly total intestinal obstruction (white arrows). (D) The Hodgkin cells (white arrowhead) are scattered in the stroma which contains small amount of lymphocytes and eosinophils (hematoxylin and eosin stain, 400×).

examination was negative for *Mycobacterium tuberculosis*. Unfortunately, disseminated intravascular coagulation complicated with intracerebral hemorrhage developed and the patient died despite one month of aggressive treatment at the intensive care unit.

Discussion

Castleman's disease is a lymphoproliferative disorder associated with HHV-8. It is clinically classified as unicentric (UCD) and multicentric CD (MCD). Histologically, it includes hyaline vascular type and plasma-cell type.[1,2] The reports of HIV-associated MCD have increased recently, with the plasma-cell type being predominant.[3] In the current case, except for the neck, no other site of lymphadenopathy was found by physical examination and CT of the neck, chest, and abdomen. In addition, the patient had no other systemic symptoms such as fever, cytopenia, hepatosplenomegaly, or weight loss, which suggests that plasma-cell type UCD rather than MCD was the presentation of this case. Despite the fact that repeat lymph node excisional biopsy revealed plasma-cell type CD, HIV infection was not suspected by the otolaryngologist. Although the UCD is usually cured after resection of the involved lymph nodes, a failure to recognize the association between plasma-cell type CD and HIV infection would result in the delay of HIV diagnosis and timely initiation of antiretroviral therapy. Increased HHV-8 viral load in the peripheral blood mononuclear cells (PBMC) has been reported to correlate with exacerbation of clinical symptoms[7] and the presence of HHV-8 DNA or antigen in biopsy tissue or PBMC has been reported in 98% of HIV-infected patients with MCD.[8] In the current case, the failure to detect HHV-8 LNA with the use of IHC stain in the resected lymph nodes might be because detectable HHV-8 LNA is not as common in plasma-cell type UCD as MCD.[1]

Kaposi's sarcoma, NHL, and invasive cervical cancer are AIDS-defining malignancies, among which the incidence of NHL and Kaposi's sarcoma decreased after the introduction of HAART.[4] In contrast, the incidence of HIV-associated HL continued to increase.[4,5] HL in HIV-infected patients has several characteristics that are different from that in HIV-negative individuals. First, the clinical course of HL is more aggressive in HIV-infected patients and is associated poor prognosis.[6] Second, extra-nodal involvement, such as skin, lung, gastrointestinal tract, and bone marrow, is more frequent in HL in HIV-infected patients than in the general population.[6] Third, aggressive histological subtypes, particularly mixed cellularity and lymphocyte depletion are predominant, and a large proportion of Reed-Sternberg cells with presence of EBV are found in the tumor tissue.[9] In addition, among HIV-infected patients, HL tends to develop in those with a higher CD4 cell count, with peak incidence in patients with CD4 cell count of 150–199 cells/μL.[10] Thus, an intestinal lymphocyte-depletion subtype HL and a CD4 count of 178/μL at diagnosis found in this case were consistent with the characteristics of HL commonly noted in HIV-infected patients.

In conclusion, our case suggests that HIV infection should be considered in patients who present with plasma-cell type CD or HL with lymphocyte-depletion subtype and extra-nodal involvement.

Conflicts of interest

We declare that there are no conflicts of interest.

Acknowledgment

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