Heart & Lung 43 (2014) 506–509

Contents lists available at ScienceDirect

Heart & Lung

journal homepage: www.heartandlung.org

Concomitant Kaposi sarcoma and multicentric Castleman's disease in a heart transplant recipient

Ami Patel, MD *, Eliahu Bishburg, MD, Mark Zucker, MD, Patricia Tsang, MD, Sandhya Nagarakanti, MD, Indu Sabnani, MD

Newark Beth Israel Medical Center, 201 Lyons Avenue, Newark, NJ 07112, USA

ARTICLE INFO

Article history:
Received 27 May 2014
Received in revised form
22 July 2014
Accepted 22 July 2014
Available online 29 August 2014

Keywords:
HHV-8
Heart transplant
KS
MCD

ABSTRACT

Post-transplant human herpes virus -8 (HHV-8)/Kaposi sarcoma herpes virus (KSHV) infection is associated with neoplastic and non-neoplastic diseases. Kaposi sarcoma (KS), multicentric Castleman's disease (MCD), and primary effusion lymphomas (PEL) are the most common HHV-8-associated neoplastic complications described in solid organ transplant (SOT) patients. Concurrent KS and MCD have been previously described after transplantation only twice – once after liver transplantation and once after renal transplantation. We describe a unique heart transplant patient who also developed concurrent KS and MCD. To our knowledge this is the first documented case of a heart transplant recipient presenting with these two HHV-8-mediated complications at the same time.

Introduction

HHV-8/KSHV is a γ – herpes virus that has been associated with neoplastic and non-neoplastic post-transplantation (PT) complications.[1] The most common neoplastic complications associated with the virus are Kaposi sarcoma (KS), multicentric Castleman's disease (MCD), and primary effusion lymphomas (PEL).[1–3] PT-KS develops in up to 1% of SOT and is more commonly seen in renal transplant recipients. PT-MCD is likewise observed infrequently in <1% of SOT. In addition to renal transplant recipients, it is also seen in liver transplant recipients. A few cases of combined KS and MCD cases have been described in AIDS patients and other immunosuppressed patients, but rarely in SOT patients.

Case report

The patient, a 72 year-old Caucasian male was admitted with fever and chills of three days duration. Past medical history was remarkable for coronary artery disease and severe left ventricular dysfunction. He underwent orthotropic heart transplantation (OHT) 18 months prior to the current hospitalization. The donor and the recipient were cytomegalovirus (CMV) negative. The patient was maintained on oral tacrolimus 3.5 mg twice daily, mycophenolate mofetil 500 mg twice daily which was tapered off over 6 weeks duration, prednisone 20 mg daily which was also tapered off over 6 week period and valganciclovir 450 mg daily for one year post transplantation.

Two months prior to the admission, the patient presented with generalized lymphadenopathy for which he underwent a right inguinal lymph node biopsy at his local hospital. Pathological examination of the node showed a vascular nodule composed of atypical plump spindle cells that formed slit-like vascular spaces containing red blood cells. Immunostains revealed the spindle cells were CD34 positive, smooth muscle antibody (SMA) positive, P16 focally faintly positive, HHV-8 focally positive, collagen IV positive, A- AT focally positive, cytokeratin (CK) 7 negative, CK18 negative, and tumor associated glycoprotein (TAG) 72 (B72.3) negative. Periodic acid Schiff (PAS) stains revealed scattered hyaline globules. The overall findings were compatible with a diagnosis of KS (Fig. 1). Bone marrow biopsy did not reveal lymphoma. Quantitative PCR performed on a blood sample demonstrated an Epstein–Barr viral (EBV) load of 105 copies/ml, and CMV viral load of <500 copies/ml. The tacrolimus level upon presentation was 6.6 ng/mL (target range 8–10 ng/mL).

Due to the persistence of diffuse lymphadenopathy, a second lymph node biopsy was performed. Pathological evaluation of the axillary lymph node revealed multiple lymphoid follicles

Abbreviations: SOT, solid organ transplant; PT, post-transplant; LANA, latency associated nuclear antigen; CNI, calcineurin inhibitors.

Disclosures: no conflict of interest for all the authors.

* Corresponding author. Tel.: +1 347 610 0219.
E-mail address: dramikpatel@hotmail.com (A. Patel).

0147-9563/$ – see front matter © 2014 Elsevier Inc. All rights reserved.
http://dx.doi.org/10.1016/j.hrtlng.2014.07.005

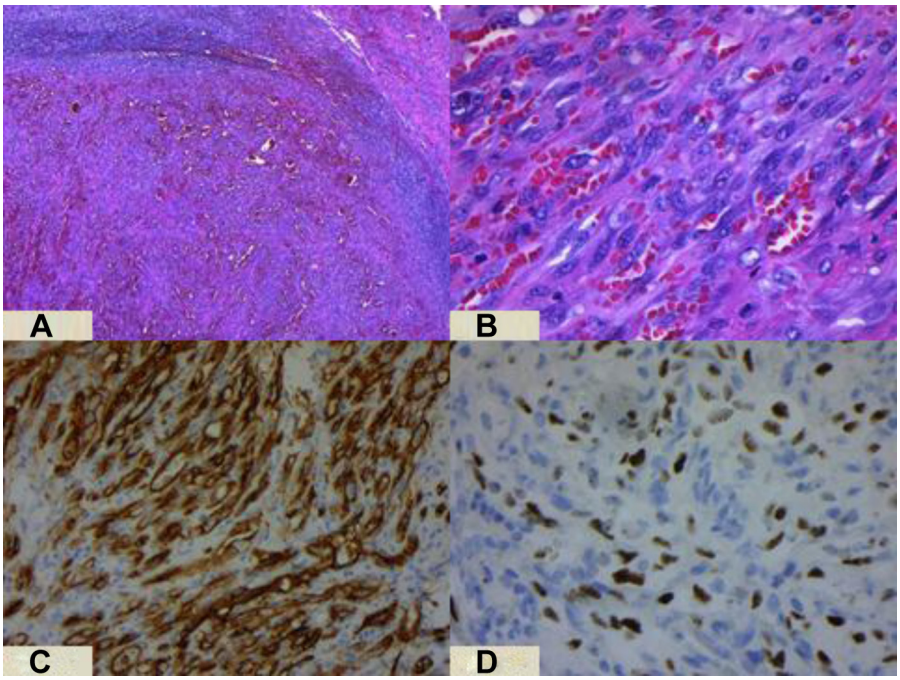

Fig. 1. Right groin lymph node exhibiting characteristic features of Kaposi sarcoma (KS). (A) The lymph node is partially replaced by a cellular nodule (20× magnification). (B) The nodule is composed of bundles of atypical plump spindle cells that form slit-like spaces containing red blood cells (40× magnification). (C) The vasculature shows intense CD34 immunoreactivity. (D) HHV-8 immunostain shows focal positivity.

surrounded by a hyperplastic mantle zone composed of concentric rings of cells. These lymphoid follicles were often penetrated by sclerotic blood vessels, characteristic of the hyaline-vascular subtype of Castleman's disease. The inter-follicular region showed increased vascularity and sheets of plasma cells with focal eosinophils. Immunostains demonstrated EBV positivity on scattered cells and HHV-8 strong immunoreactivity on a subset of the cells surrounding the lymphoid follicles. The plasma cells were CD138 positive and showed polyclonal κ and λ expression based on in situ hybridization. The findings were consistent with Castleman's disease (CD) with mixed features of hyaline-vascular and plasma cell subtypes (Fig. 2). As the patient had diffuse lymphadenopathy, MCD was suspected clinically.

The patient was started on weekly methylprednisolone and rituximab 375 mg/m^2 – for two cycles. He was also started on intravenous ganciclovir (5 mg/kg daily times 4 days) after which he

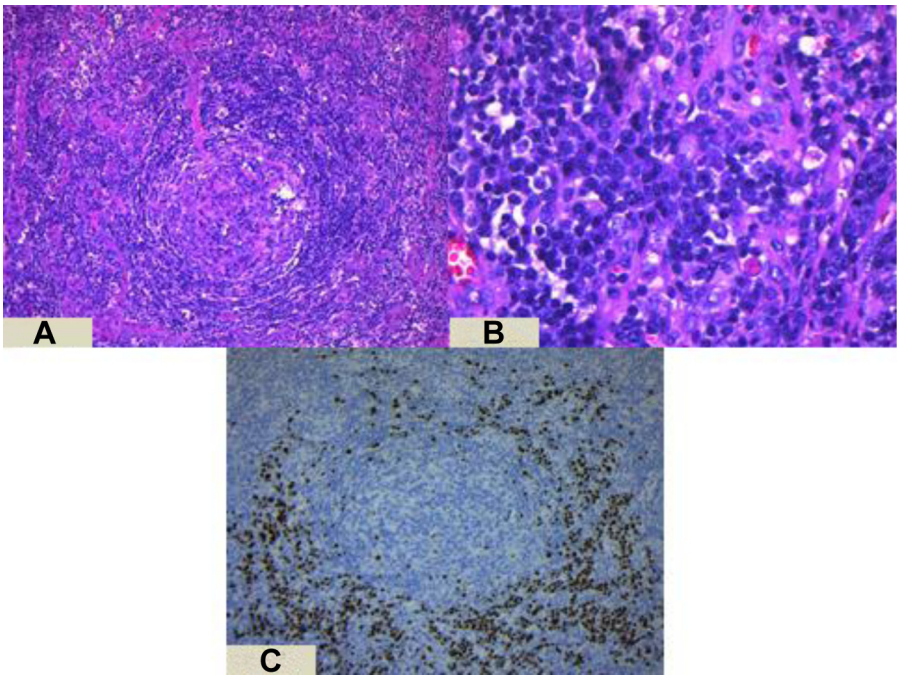

Fig. 2. Right axillary lymph node showing Castleman's disease. (A) Benign lymphoid follicle surrounded by a hyperplastic mantle zone composed of concentric rings of cells. Sclerotic blood vessels characteristically penetrate the lymphoid follicle. (B) The interfollicular region shows increased vascularity and contains sheets of plasma cells. (C) HHV-8 positive cells focally surround some of the lymphoid follicles.