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CASE REPORT

# SIMULTANEOUS DEVELOPMENT OF KAPOSI'S SARCOMA AND LYMPHOMA IN A RENAL TRANSPLANT RECIPIENT

Farahnaz Noroozinia MD*•, Farhad Nemati MD*, Farrokh Ghavam MD*, Khadijeh Makhdoomi MD**, Seiamak Aglemand MD***

**Department of Pathology, **Department of Nephrology, ***Department of Hygiene, Urmia University of Medical Sciences, Urmia, Iran*

**Kaposi's sarcoma (KS) and non-Hodgkin's lymphoma have been described following renal transplantation as separate entities. We report simultaneous development of KS and lymphoma in a 45-year-old female after renal transplantation. Following transplantation, the patient received immunosuppressive treatment with cyclosporine, azathioprine and prednisolone, and maintained normal serum creatinine. Four and a half months after transplantation, she developed KS skin lesions and cervical lymphadenopathy. A cervical lymph node biopsy revealed both KS and lymphoma. Immunosuppression was discontinued 2 weeks later, and she responded with complete regression of both tumors within about 2 months. The patient was followed up for 32 months with no tumor recurrence and the allograft function has been stable with prednisolone therapy. It is important to keep in mind that, after kidney transplantation, one or more malignancies can develop either as separate entitles or simultaneously, and reduction in the immunosuppression regimen may lead to complete remission.**

**Keywords** • Kaposi's sarcoma • lymphoma • renal transplantation

## Introduction

Kaposi's sarcoma (KS) and non-Hodgkin's lymphoma (NHL) are frequent complications of renal transplantation, but they usually occur as separate entities.

KS is a cutaneous spindle cell neoplasm that occurs in 0.2 – 5% of renal transplant recipients.[1] The disease has recently been linked to the human herpesvirus-8 (HHV-8), which is transmitted through renal allografts. HHV-8 replication occurs during immunosuppression, with viral dissemination causing infection of nearly every organ in the body.[1,2] Post-transplant lymphoproliferative disorder (PTLD) is an Epstein-Barr virus associated malignancy that occurs in 1 – 10% of patients, depending on the type of transplanted organ, and almost exclusively involves patients who receive immunosuppressive therapy after organ transplantation. Typically, the malignant cells are transformed lymphocysts of B-cell origin and are infected by the Epstein-Barr virus (EBV).[3]

Synchronous development of KS and malignant lymphoma is a rare phenomenon.

## Case Report

A 45-year-old woman received a living unrelated renal transplant in our hospital on the 29th of November, 1999. She had no previous history of malignancy, organ transplantation and/or immunosuppression, and was negative for HIV antibodies at that time. The patient's regimen of immunosuppression consisted of cyclosporine 8 mg/kg (tapered to 5 mg/kg), azathioprine 2 mg/kg and prednisolone 1 mg/kg.

Four and a half months after transplantation, the patient developed multiple dark blue lesions on the abdomen, legs and neck, which were histologically confirmed as KS (Figure 1).

• **Correspondence:** *F. Nemati MD, Department of Pathology, Imam Khomeini Hospital, Urmia University of Medical Sciences, Urmia, Iran. Fax: +98-441-3447440,*
*E-mail: Farhad_nemati@yahoo.com.*

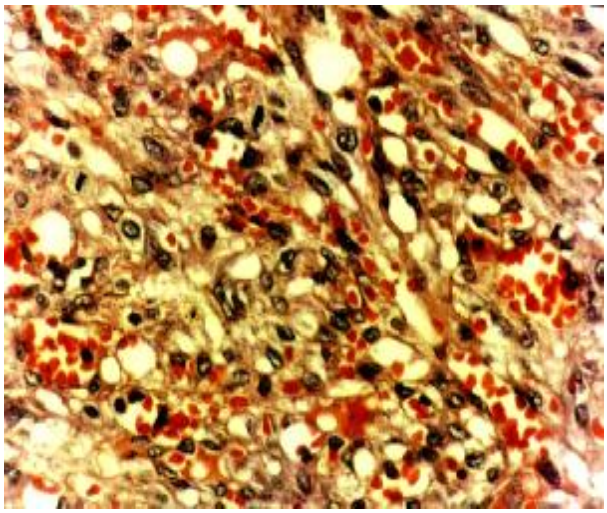

**Figure 1.** Histologic features of Kaposi's sarcoma. There are numerous vascular lumina lined by prominent endothelial cells along with spindle cells (H&E staining, X 100).

At the same time, the patient developed cervical lymphadenophathy. A lymph node biopsy showed both KS and NHL, diffuse large cells and KS in the same sample (Figure 2).

Cyclosporine and azathioprine were discontinued. Then she sought medical attention because of continous fever. Gancyclovir and ceftriaxone were started and prednisolone therapy was maintained. The serum creatinine (Cr) level was 1.3 mg/dL. After 45 days, the KS skin lesions and cervical lymphadenopathy disappeared, but the patient's creatinine level increased up to 3 mg/dL.

Methylprednisolone pulse was given for 1 week, after which the Cr level decreased to 1.8 mg/dL.

The patient has been followed up for 32 months with no evidence of tumor recurrence at the time of this writing. The graft function has remained stable with a serum Cr level of 1.8 mg/dL on prednisolone 15 mg/day.

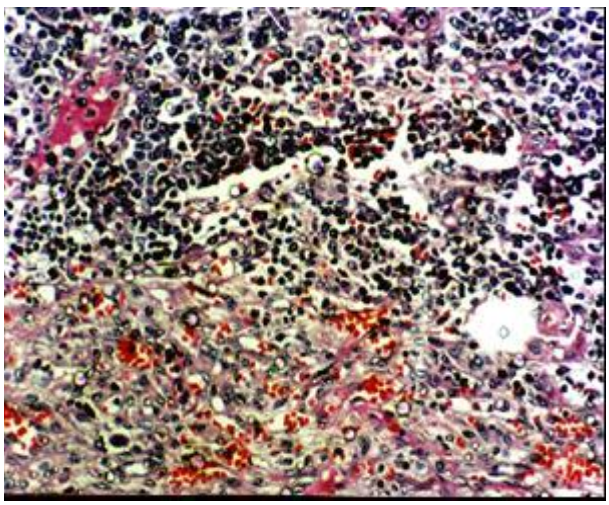

**Figure 2.** Histologic features of coexistence Kaposi's sarcoma and lymphoma, diffuse large cell (H & E staining, X 40).

## Discussion

Recipients of renal transplants are known to have an increased incidence of cancer,[3, 7] which is believed to be related to the immunosuppressive drugs used to prevent rejection.[3, 8, 9] Although the independent risks of lymphoma and KS are clearly increased in this setting, the occasional association of KS with lymphoma is of special interest.

Our case and two other case reports in the literature[4, 5] suggest a possible mildly increased risk of synchronous development of KS and lymphoma, with immunosuppression being the main factor. Cyclosporine has been claimed to be the first cause of occurrence of KS or lymphoma after renal transplantation, as compared to azathioprine.[6] The median time (42.5 months) of occurrence of KS and lymphoma after renal transplantation following medication with cyclosporine-A was significantly shorter than in cases that did not receive cyclosporine (95.5 months).[6]

We conclude that coexistence of the KS and NHL in our patient was the result of immunosuppression, especially cyclosporine, as withdrawal of the immunosuppressive agents affected the prognosis favorably. The high cumulative incidence of malignancies makes it imperative to define a safe and effective immunosuppressive regimen to reduce their risk. In the future, the primary approach to the treatment of post-transplantation malignancies should begin with early detection and reduction or withdrawal of the immunosuppressive regimen to allow the immune system to recover sufficiently enough to reduce viral (HHV-8 and EBV) replication, which coincides with the remission of KS lesions and lymphoma.

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