CASE REPORT

Kaposi's sarcoma presenting as violaceous macules on the chest of a kidney transplanted patient

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SUMMARY

Organ transplant recipients have a high incidence of cancer associated with persistent viral infections, such as human herpes virus 8. This virus is associated with Kaposi's sarcoma, and a change in the dose or type of immunosuppression regimen should be the first step in its treatment. A multidisciplinary approach with nephrologists, dermatologists and oncologists is necessary for the management of this disease. We report a clinical case with atypical presentation and discuss the treatment options.

BACKGROUND

Renal transplanted patients have a high incidence of Kaposi's sarcoma due to viral reactivation following introduction of immunosuppressive therapy after transplantation.¹

The most common presentations are violaceous patches on the lower extremities,² and mucosal and extracutaneous presentations, albeit rarer, can be observed.

CASE PRESENTATION

A 53-year-old black woman, born in Angola, presented with brown and violaceous macules localised to the chest, which appeared 3 months before (figure 1). The patient reported neither of pruritus nor pain, and the lesions were not observed in other body areas.

She had a kidney transplant 1 year prior, from a deceased donor. Her HIV status before the transplant was negative and the induction regimen included basiliximab, tacrolimus, mycophenolate mofetil and prednisolone. Her current medication was prednisolone, 7.5 mg daily; mycophenolate mofetil 500 mg two times a day; and tacrolimus 8 mg daily. She had poorly controlled diabetes, medicated with gliclazide 30 mg daily.

INVESTIGATIONS

Blood cell count and clinical chemistry were normal, and serology for HIV and autoimmunity work up were negative. Chest radiogram did not show abnormalities.

Kaposi's sarcoma was diagnosed with skin biopsy and positive immunohistochemistry (figure 2). CT scan and endoscopy did not show visceral disease.

DIFFERENTIAL DIAGNOSIS

The clinical hypotheses were sarcoidosis, lupus, lichen planus, Kaposi's sarcoma and lymphoma.

TREATMENT

The tacrolimus dosage was halved, with only partial response observed, and, after multidisciplinary discussion of the case, chemotherapy was started. The patient maintained the immunosuppression reduction and was then medicated with pegylated liposomal doxorubicin, 20 mg/m² every 3 weeks, for a total of 11 cycles.

She did not resume her full immunosuppression after completion of chemotherapy. The trough levels of tacrolimus before diagnosis of Kaposi's sarcoma were between 7 and 8 ng/mL, and between 3 and 4 ng/mL after halving the dose. The tacrolimus dose was not increased after completion of chemotherapy.

OUTCOME AND FOLLOW-UP

A good response was observed after the first treatment, with remission of the lesions, and no relapses were observed in 24 months of follow-up.

DISCUSSION

Organ recipients have a high risk of cancer associated with persistent infections with oncogenic viruses,³ such as human herpes virus 8, and the highest rates of seropositivity for this virus are observed in sub-Saharan Africa.⁴ Our patient was born in Angola, and black skin, even in European series,⁵ has been identified as an independent risk factor for development of Kaposi's sarcoma in kidney transplanted patients.

The mean time between transplantation and Kaposi's sarcoma development is 13 months.^{1 6} In this clinical case, a shorter interval and an uncommon presentation, localised only to the chest, were observed.

The incidence of Kaposi's sarcoma in kidney transplanted patients is increased, but in the

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Figure 1 Violaceous macules on the chest.

Figure 2 Dilated blood vessels and positive nuclear staining for human herpesvirus 8 in immunohistochemistry, considered to be a highly sensitive and specific marker of Kaposi's sarcoma.

majority of patients, the disease involves only the skin. In these patients, the graft and overall outcome are good, but visceral involvement portends a poor prognosis.^{1 7–9} Recurrence is frequent and associated with the increase of immunosuppression.¹

Learning points

- ▶ Kaposi's sarcoma is an important cause of morbidity in organ transplant recipients.
- ▶ If a new skin lesion develops in an organ transplant recipient, it could represent a tumour—a skin biopsy should be performed.
- ▶ Kaposi's sarcoma should be kept in the differential diagnosis of atypical skin lesions, especially in patients from regions with high rates of seropositivity for human herpes virus 8, such as sub-Saharan Africa.
- ▶ A multidisciplinary approach, with nephrologists, dermatologists and oncologists, is required for the treatment of this disease.

Management of Kaposi's sarcoma in organ patients with transplant can have immunosuppression reduction as a first step.¹ Switching immunosuppressive therapy to sirolimus or other mTOR inhibitors^{10 11} is another option, but disease progression can still be observed in some patients.¹² In patients without good response, such as our patient, chemotherapy or radiotherapy are additional options.

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REFERENCES

- 1 Euvrard S, Kanitakis J, Claudy A. Skin cancers after organ transplantation. *N Engl J Med* 2003;348:1681–91.
- 2 Stoff B, Salisbury C, Parker D, et al. Dermatopathology of skin cancer in solid organ transplant recipients. *Transplant Rev (Orlando)* 2010;24:172–89.
- 3 Piselli P, Busnach G, Frattino L, et al. De novo malignancies after organ transplantation: focus on viral infections. *Curr Mol Med* 2013;13:1217–27.
- 4 Uldrick TS, Whitby D. Update on KSHV epidemiology, Kaposi sarcoma pathogenesis, and treatment of Kaposi sarcoma. *Cancer Lett* 2011;305:150–62.
- 5 Francès C, Marcelin AG, Legendre Ch, et al. The impact of preexisting or acquired Kaposi sarcoma herpesvirus infection in kidney transplant recipients on morbidity and survival. *Am J Transplant* 2009;9:2580–6.
- 6 Woodle ES, Hanaway M, Buell J, et al. Kaposi sarcoma: an analysis of the US and international experiences from the Israel Penn international transplant tumor registry. *Transplant Proc* 2001;33:3660–1.
- 7 Zavos G, Moris D, Vernadakis S, et al. Incidence and management of Kaposi sarcoma in renal transplant recipients: the Greek experience. *Transplant Proc* 2014;46:3199–202.
- 8 Shahbazian H. Kaposi sarcoma in kidney transplanted patients. *Urol J* 2004;1:111–14.
- 9 Einollahi B, Lessan-Pezeshki M, Nourbala MH, et al. Kaposi's sarcoma following living donor kidney transplantation: review of 7,939 recipients. *Int Urol Nephrol* 2009;41:679–85.
- 10 Stallone G, Schena A, Infante B, et al. Sirolimus for Kaposi's sarcoma in renal-transplant recipients. *N Engl J Med* 2005;352:1317–23.
- 11 Roy D, Sin SH, Lucas A, et al. mTOR inhibitors block Kaposi sarcoma growth by inhibiting essential autocrine growth factors and tumor angiogenesis. *Cancer Res* 2013;73:2235–46.
- 12 Lebbé C, Euvrard S, Barrou B, et al. Sirolimus conversion for patients with posttransplant Kaposi's sarcoma. *Am J Transplant* 2006;6:2164–8.

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