

Sarcoma de Kaposi em Receptores de Transplante de Órgão Sólido: Um Caso Desafiador

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RESUMO – O sarcoma de Kaposi é um tumor vascular de baixo grau, associado à infeção pelo herpesvírus humano 8. Os doentes com transplante de órgão sólido têm um elevado risco desta neoplasia, com taxas de incidência estimadas 84 a 500 vezes superiores às da população geral. O risco é ainda maior em grupos étnicos com incidências intrinsecamente mais elevadas. Apresentamos o caso de um doente de 37 anos, natural de um país africano, transplantado renal, com sarcoma de Kaposi refratário a diferentes opções terapêuticas. O caso coloca em evidência os desafios associados ao tratamento desta neoplasia em populações de alto risco e enfatiza a importância da abordagem multidisciplinar para o sucesso terapêutico, particularmente em formas avançadas e refratárias de doença.

PALAVRAS-CHAVE – Hospedeiro Imunocomprometido; Sarcoma de Kaposi/etiologia; Transplantados; Transplante de Órgãos/efeitos adversos.

Kaposi Sarcoma in Solid Organ Transplant Recipients: A challenging Case

ABSTRACT – Kaposi sarcoma is a low-grade vascular tumor, associated with human herpesvirus-8 infection. Solid organ transplant recipients have a much higher risk of this malignancy, with estimated incidence rates increased 84 to 500 times. The risk is even higher in some ethnic groups, already with a higher incidence of this disease.

We report a case of a 37-year-old African male, a kidney transplant recipient, with a Kaposi sarcoma refractory to different treatment options. The present case puts in evidence the challenges associated with the management of this disease in this high-risk population and highlights the role of a multidisciplinary approach to achieve effective treatment, particularly in advanced and refractory forms.

KEYWORDS – Immunocompromised Host; Organ Transplantation/adverse effects; Sarcoma, Kaposi/etiology; Transplant Recipients.

INTRODUCTION

Kaposi sarcoma (KS) is a low-grade vascular tumor, with a complex pathogenesis, involving human herpes virus 8 (HHV-8) infection, cytokines and host-immune suppression.¹ HHV-8 has oncogenic capacity, which mimics oncogenes that promote cell division, inhibit apoptosis, modulate inflammation and induce angiogenesis.¹⁻³

KS affects primarily the skin and mucous membranes, but lymph nodes and visceral organs can also be involved, particularly in advanced forms.^{4,5}

Solid organ transplant recipients have a much higher risk of this malignancy due to long-term use of immunosuppressive agents for preventing allograft rejection. In this population its estimated incidence rates are increased 84

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Figure 1 - Lower limb involvement with exsudative lesions on the feet.

to 500 times.^{4,6} The risk is even further increased in ethnic groups that already have a higher incidence of this disease.⁴

The first line treatment of KS in solid organ transplant recipients usually consists of halving immunosuppression, which is associated with good responses, sometimes even complete remission.^{7,8} However, resistant and advanced cases are challenging and require other type of therapies.^{7,8}

CASE REPORT

A 37-year-old black male, born in a West African country, presented to our Dermatology Clinic with a six-month history of brown and violaceous nodules in his right leg. He had been

submitted to kidney transplant two years before and his immunosuppressive therapy was mycophenolate mofetil 500 mg twice daily, rapamycin 3 mg once daily and prednisolone 5 mg once day. The histopathologic examination of a skin biopsy was compatible with KS with positive immunohistochemical staining for HHV-8.

After the diagnosis, immunosuppressive therapy was reduced, stopping mycophenolate mofetil. The patient had a transient improvement, but after 18 months he developed exudative skin lesions in his lower limbs and abdomen (Figs 1 and 2) and there was evidence of visceral disease, with gastric involvement confirmed by endoscopy and biopsy.



Figure 2 - Multiple brown and violaceous nodules on the lower limb.



Figure 3 - Inguinal lymph node involvement on imaging tests (CT).

The patient was then evaluated by the specialty of Medical Oncology and began first line chemotherapy with pegylated liposomal doxorubicin. After a total 34 cycles, there was a good clinical response, with symptomatic improvement and partial regression of skin lesions.

However, three months after finishing first line chemotherapy, the patient presented asymmetrical edema of the right lower limb and venous Doppler revealed lymphadenopathy compressing the femoral vessels. Computed tomography (CT) revealed lymph node and peritoneal disease progression (Figs 3 and 4).

Chemotherapy was then changed to second-line paclitaxel, followed by radiotherapy on femoral ganglion chains. Although there was an initial apparent response, the disease



Figure 4 - Peritoneal involvement on imaging tests (CT).

remained in progression with worsening of skin lesions and progressive visceral involvement, with liver metastasis.

After 8 cycles, the patient was admitted for sepsis with bilateral infected ulcerations in his lower limbs motivating aggressive antibiotic treatment and suspension of chemotherapy (Fig. 5). In a multidisciplinary assessment with the specialties of Dermatology, Nephrology and Medical Oncology it was decided to suspend immunosuppression and to start etoposide as a third line chemotherapy. Additionally, wound cleansing was performed with potassium permanganate alternated with acetic acid. There was a significant improvement of all skin lesions.



Figure 5 - Infected ulcerations on his right feet (superinfection with *Pseudomonas aeruginosa*).

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However, six months later, the patient developed clinical signs of renal allograft rejection so that immunosuppressive therapy was resumed with prednisolone 20 mg once daily. He remained stable on etoposide and prednisolone with a sustained response for three years but died after sepsis following a lower respiratory infection.

DISCUSSION

Kaposi sarcoma is a challenging disease in solid organ transplant recipients, especially in those from endemic areas.^{4,5} Halving immunosuppression is the first-line treatment in immunosuppressed patients, and in most cases total regression of KS lesions is observed, nevertheless, it is challenging to maintain the balance between risks and benefits both for the graft and KS.^{5,7,9}

Prognosis in patients with KS limited to the skin is favorable, whereas visceral involvement is associated with high mortality.¹⁰ Visceral disease is observed in up to 25% of kidney transplant recipients with KS.⁴ For these patients and those with extensive and progressive mucocutaneous disease like our patient, systemic chemotherapy is the therapy of election.^{5,7,8} Anthracyclines and paclitaxel are the main drugs for the treatment of KS.^{5,7,8,11} Other drugs, such as vinblastine, bleomycin and etoposide are effective alternatives for refractory cases.^{7,8}

In this case we had a very aggressive and resistant disease form, but etoposide showed good results. Also in this case, control of organ rejection was obtained with low dose of immunosuppressive therapy.

CONCLUSION

Multidisciplinary approach is essential to ensure optimization of treatment in high-risk individuals with Kaposi sarcoma, particularly solid organ transplant recipients with advanced and refractory forms of this disease.

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REFERENCES

1. Schneider JW, Dittmer DP. Diagnosis and treatment of Kaposi sarcoma. *Am J Clin Dermatol.* 2017; 18: 529–39. doi: 10.1007/s40257-017-0270-4.
2. Cesarman E, Damania B, Krown SE, Martin J, Bower M, Whitby D. Kaposi sarcoma. *Nat Rev Dis Prim.* 2019; 5: 9.
3. Gantt S, Casper C. Human herpesvirus 8-associated neoplasms: the roles of viral replication and antiviral treatment. *Curr Opin Infect Dis.* 2011;24:295–301. doi: 10.1097/QCO.0b013e3283486d04.
4. Euvrard S, Kanitakis J, Claudy A. Skin cancers after organ transplantation. *N Engl J Med.* 2003; 348: 1681–91.
5. Mansinho A, Macedo D, Nunes B, Fernandes I, Jorge M, Borges-Costa J. Abordagem Terapêutica do Sarcoma de Kaposi – A Importância da Multidisciplinariedade. *Rev Soc Port Dermatol Venereol.* 2015; 73:199-208.
6. Raeisi D, Payandeh M, Madani SH, Zare ME, Kansestani AN, Hashemian AH. Kaposi's sarcoma after kidney transplantation: A 21-years experience. *Int J Hematol Stem Cell Res.* 2013;7: 29–33.
7. Requena C, Alsina M, Morgado-Carrasco D, Cruz J, Sanmartín O, Serra-Guillén C et al. Kaposi sarcoma and cutaneous angiosarcoma: guidelines for diagnosis and treatment. *Actas Dermosifiliogr.* 2018;109: 878–87. doi: 10.1016/j.ad.2018.06.013.
8. Régnier-Rosencher E, Guillot B, Dupin N. Treatments for classic Kaposi sarcoma: A systematic review of the literature. *J Am Acad Dermatol.* 2013; 68:313–31. doi: 10.1016/j.jaad.2012.04.018.
9. Fernandes S, Pinto GM, Moura C, Afonso A, Cardoso J. Sarcomas Cutâneos – Do Diagnóstico ao Tratamento. *Rev Soc Port Dermatol Venereol.* 2012; 70:331-30.
10. Zavos G, Moris D, Vernadakis S, Bokos J, Lionaki S, Mamarelis G et al. Incidence and management of Kaposi sarcoma in renal transplant recipients: The greek experience. *Transplant Proc.* 2014;46: 3199–202.
11. Di Lorenzo G. Update on classic Kaposi sarcoma therapy: New look at an old disease. *Crit Rev Oncol Hematol.* 2008; 68, 242–9.