# Transplant-associated Kaposi's Sarcoma in a White Man

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An 80-year old white patient presented to his family physician with skin lesions on the inner part of his left upper hip. The lesions developed during the previous month and were painless. One year earlier he underwent an altruistic donor kidney transplant for chronic renal failure. His treatment included tacrolimus and mucophenolic acid.

Physical examination revealed purplish confluent nodules on the inner left leg highly evocative of Kaposi's sarcoma [Figure 1]. Skin biopsy confirmed the diagnosis, while immunohistochemical staining was positive for CD31 and human herpes virus type 8 (HHV-8). Because of treatment with immunosuppressive medications, recipients of solid organs transplants are at an elevated risk for Kaposi's sarcoma, which is caused by HHV-8. Switching the immunosuppressive regimen to mammalian target of rapamycin (mTOR) inhibitors such as rapamycin/sirolimus/everolimus often leads to Kaposi's sarcoma regression. This treatment plan was applied in the case of this patient, who was scheduled for local radiation therapy.

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**Figure 1.** Purplish confluent nodules on the inner left leg highly evocative of Kaposi's sarcoma

Capsule

## Systemic cardiovascular disease

In the bone marrow, hematopoietic stem cell proliferation and leukocyte transit are controlled by the endothelial cells of blood vessels. Abnormal proliferation of inflammatory cells is a hallmark of cardiovascular disease. However, hypertension, atherosclerosis, and myocardial infarction, which are prevalent in cardiovascular disease, negatively affect the vasculature systemically. **Rohde** and colleagues found that cardiovascular disease affected the microvascular anatomy of the bone marrow of mice. The authors observed that the endothelial-derived cytokine, interleukin (IL)-6, and an extracellular matrix component called versican promoted myelopoiesis and leukocytosis. By deleting the gene for vascular endothelial growth factor (Vegfr2), angiogenesis was reduced, and when IL-6 or versican was eliminated, hematopoiesis slowed and myeloid cells declined. These insights indicate potential therapeutic targets.

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