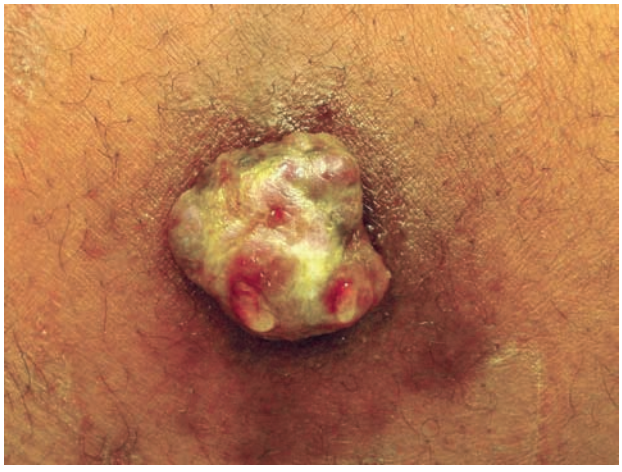
What Is Your Diagnosis?



A 40-year-old man presented with an enlarging lesion on his right thigh.

PLEASE TURN TO PAGE 420 FOR DISCUSSION

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The authors report no conflict of interest.

The Diagnosis: Kaposi Sarcoma

The patient presented with a 1-month history of a rapidly enlarging lesion on his right thigh (Figure 1) and a past medical history of human immunodeficiency virus (HIV) with a CD4 cell count of 207 cells/mm^3 (reference range, 500–1500 cells/mm^3). Examination of a shave biopsy specimen of the lesion confirmed the diagnosis of Kaposi sarcoma (KS). KS is a low-grade vascular tumor associated with human herpesvirus 8 infection and has 4 epidemiologic forms: classic, African endemic, KS in iatrogenically immunocompromised patients, and AIDS-related (epidemic) KS.[1] KS is the most common tumor arising in individuals with HIV. Although AIDS-related KS has been reported among all risk groups for HIV infection, it is most common in homosexual or bisexual men.[1]

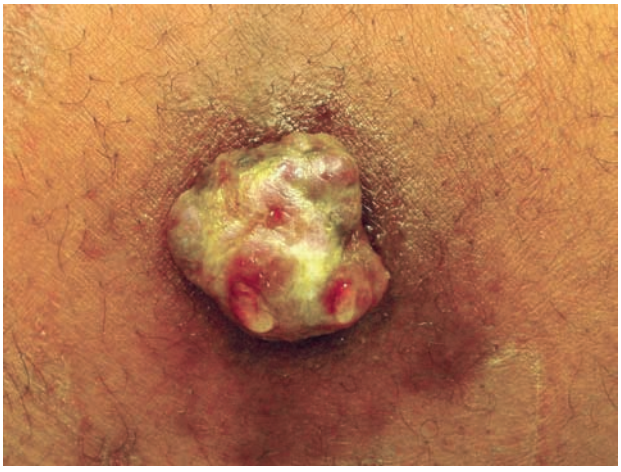

Figure 1. Exophytic, fungating, violaceous crusted nodule (2 cm) with serosanguineous drainage.

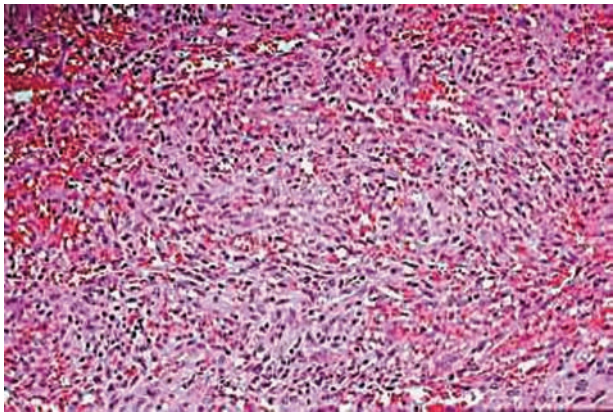

Figure 2. Characteristic features of spindle-shaped cells lining vascular slits containing erythrocytes (H&E, original magnification ×200).

AIDS-related KS typically affects individuals with CD4 cell counts of less than 500 cells/mm^3. It has a variable clinical course ranging from minimal disease that is presented as an incidental finding to explosive growth that results in substantial morbidity and mortality.[2] Skin involvement is characteristic and extracutaneous spread to the oral cavity, gastrointestinal tract, lymph nodes, and respiratory tract is common. Cutaneous lesions appear most often on the face, especially the nose; lower extremities; oral mucosa; and genitalia. Skin lesions typically present with multifocal, asymptomatic, reddish purple macules that may progress to raised plaques or nodules.[3] Less commonly, KS lesions may be plaquelike, especially on the soles of the feet and the thighs, or exophytic fungating lesions with breakdown of overlying skin.[4]

Although the clinical manifestations of KS may vary, the histopathology does not vary.[5] There are 3 characteristic histologic features of KS: angiogenesis, inflammation, and proliferation. Lesions generally display whorls of spindle-shaped cells with lymphocytic infiltration and neovascularization with aberrant vessel proliferation. The spindle-shaped cells form intersecting fascicles and are separated by slitlike spaces and dilated vascular channels (Figure 2). Histologically, advanced lesions exhibit nuclear atypia, pleomorphism, and/or mitotic figures.[6]

Treatment remains difficult because there is no known cure for KS. The major goals of treatment are palliation of symptoms, shrinkage of tumors to alleviate edema and organ compromise, and prevention of disease progression. Treatment options depend greatly on the extent of disease, growth rate of lesions, CD4 cell count, and viral load.[7] Highly active antiretroviral therapy has been associated with inhibited progression and even regression of KS. Localized treatments include radiation therapy, cryotherapy, intralesional chemotherapy, and immunotherapy. Intralesional interferon alfa therapy has been used for the treatment of KS but high doses and multiple treatments are needed.[8] One study found an overall response rate of 85% (41/54 [76%] lesions showed a clinical response and 5/54 [9%] showed a partial response) when 1 million units of interferon alfa were injected 3 times weekly for 6 weeks; however, this was not a superior result over placebo.[9] Vinblastine sulfate is the most commonly used intralesional agent with a reported clinical response rate of 88%.[10] It is most

effective for patch and plaque lesions, with a more variable efficacy in tumor nodules. Smith et al[8] found the combination of intralesional vinblastine sulfate with intralesional hyaluronidase to be more effective than vinblastine sulfate alone in treating tumor nodules of KS with regards to regression and rate of recurrence. Systemic treatments include cytotoxic agents such as bleomycin sulfate, doxorubicin, interferon alfa, and paclitaxel. Newer treatments, including topical alitretinoin gel 0.1%, and angiogenesis inhibitors, such as fumagillin and imatinib mesylate, may hold promise for the future.[11]

REFERENCES

1. Aboulafia DM. The epidemiologic, pathologic, and clinical features of AIDS-associated pulmonary Kaposi's sarcoma. *Chest*. 2000;117:1128-1145.
2. Dezube BJ. Clinical presentations and natural history of AIDS-related Kaposi's sarcoma. *Hematol Oncol Clin North Am*. 1996;10:1023-1029.
3. Geraminejad P, Memar O, Aronson I, et al. Kaposi's sarcoma and other manifestations of human herpesvirus 8. *J Am Acad Dermatol*. 2002;47:641-655.
4. Garman ME, Tyring SK. The cutaneous manifestations of HIV infection. *Dermatol Clin*. 2002;20:193-208.
5. Aboulafia DM. Kaposi's sarcoma. *Clin Dermatol*. 2001;19:269-283.
6. Mitsuyasu RT. Clinical variants and staging of Kaposi's sarcoma. *Semin Oncol*. 1987;14(2 suppl 3): 13-18.
7. Beral V, Peterman TA, Berkelman RL, et al. Kaposi's sarcoma among persons with AIDS: a sexually transmitted infection? *Lancet*. 1990;335:123-128.
8. Smith K, Skelton HG, Turiansky G, et al. Hylauronidase enhances the therapeutic effect of vinblastine in intralesional treatment of Kaposi's sarcoma. Military Consortium for the Advancement of Retroviral Research (MMCARR). *J Am Acad Dermatol*. 1997;36(2 pt 1): 239-242.
9. Dupuy J, Price M, Lynch G, et al. Intralesional interferon-alpha and zidovudine in epidemic Kaposi's sarcoma. *J Am Acad Dermatol*. 1993;28:966-972.
10. Boudreaux AA, Smith LL, Cosby CD, et al. Intralesional vinblastine for cutaneous Kaposi's sarcoma associated with acquired immunodeficiency syndrome. a clinical trial to evaluate efficacy and discomfort associated with infection. *J Am Acad Dermatol*. 1993;28: 61-65.
11. Cheung MC, Pantanowitz L, Dezube BJ. AIDS-related malignancies: emerging challenges in the era of highly active antiretroviral therapy. *Oncologist*. 2005;10:412-426.