# Classic Kaposi's Sarcoma

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Classic Kaposi's sarcoma is one form of Kaposi's sarcoma. It is usually first seen in the skin of the lower extremities, where it is frequently misdiagnosed as a bruise. As time progresses, the lesions increase in size, number, and color. Early diagnosis is paramount to decrease metastasis to other organ systems such as the lungs, kidneys, and liver. The podiatric physician must take a detailed history, follow the course of the illness, and be aware that definitive diagnosis is made by a skin biopsy. This article provides a case history of Kaposi's sarcoma and discusses diagnosis and treatment of this disease. (J Am Podiatr Med Assoc 95(6): 586-588, 2005)

In 1872, the Austrian dermatologist Moritz Kaposi described a malignant skin disease initially termed *idiopathic multiple pigmented sarcoma* and later identified in the literature as (classic) Kaposi's sarcoma.[1] Classic Kaposi's sarcoma is a rare malignancy, unrelated to acquired immunodeficiency syndrome (AIDS), usually affecting the skin of the lower extremities. The malignancy originates in the vascular endothelium. It usually first appears as benign bruises that are asymptomatic and do not give rise to a pruritic reaction or an abscess. As the disease progresses, the lesions take the form of plain maculae or patches and elevated plaques of variable dimensions. The typical spectrum of colors is brown, blue, and red. The lesions have an indolent course, and the disease is rarely fatal. The few deaths that result from classic Kaposi's sarcoma occur as a result of metastasis that causes secondary malignancies. Mitsuyasu and Groopman[2] created a staging system for classic Kaposi's sarcoma. In their system, stage I is limited skin involvement; stage II, disseminated skin involvement; stage III, gastrointestinal tract and lymph node involvement; and stage IV, disseminated skin lesions in visceral organ spread and lymphatic or pulmonary lesions.

The onset of classic Kaposi's sarcoma is usually during the fifth to the eighth decade, with a male predominance of almost 10:1.[3] The incidence is particularly high in the Mediterranean population and Jews of Ashkenazi (Eastern European) origin.[4] The origin of Kaposi's sarcoma is still controversial; however, a vascular histogenesis is supported by electron microscopic studies.[5] Histologically, the components are extravascular hemorrhage with hemosiderin deposits and endothelial cell and fibroblastic proliferation.[2] Tumor markers also suggest a relationship between Kaposi's sarcoma and human herpesvirus 8.[6]

Because of the rareness of classic Kaposi's sarcoma, the optimal treatment has not yet been identified. Because the disease generally affects older patients, an extended period of treatment is not usually required. Treatment strategies have evolved over the last 20 to 30 years as understanding of the disease has improved. Today, local radiation is the preferred treatment modality for small and localized lesions, resulting in long remissions and optimal local control.[3] Brenner et al[7] published a study of 123 patients that focused on treatment. Radiotherapy was effective in 85% of the cases. When the disease was limited to one to three limbs or fewer than four lesions, the response rate was 93%. Classic Kaposi's sarcoma also responds to chemotherapy. Vinblastine has been reported to be effective in 73% of cases. Agents such as vinblastine, vincristine, and bleomycin are prescribed because of their limited toxicity.[3]

## Case Report

A 73-year-old man of Mediterranean origin reported to my office with a nontender, 2-cm, flat, brown lesion on the second digit of his left foot. The patient

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reported a history of trauma from wearing tight shoes on a 2-week driving trip. His medical history was positive for hypercholesterolemia, benign prostatic hypertrophy, asthma, and diabetes mellitus. His social history was positive for smoking one pack of cigarettes per day for 50 years. The physical examination results were otherwise normal.

On examination of the patient's lower extremity, pulses, hair growth, and skin temperature were within normal limits. There were no signs of swelling or telangiectasia of the lower extremity. On neurologic testing, sharp and dull reflexes and deep tendon reflexes were within normal limits. Additionally, there were no signs of osseous abnormalities, and range of motion and muscle strength were standard. The diagnosis was trauma-induced hematoma. The patient was advised to return to the office in 2 weeks.

Three months later, the patient reported to the office with multiple lesions on the dorsum of his left foot and his left leg. The lesions were brown and red (Figs. 1–3). Routine laboratory tests were performed (complete blood cell count, urinalysis, and blood chemistry panel), and the results were within normal limits. Testing for human immunodeficiency antibodies was also negative. A skin biopsy was performed and the sample sent to a pathology laboratory for analysis. The results revealed atypical dermal spindle cells of vascular proliferation and positive antibodies to human herpesvirus 8 (Figs. 4 and 5). The immunohistochemical stain for human herpesvirus 8 and the tumor cells were compatible with a diagnosis of Kaposi's sarcoma. The patient had no visceral metastasis, and the disease was classified as stage I (according to the Mitsuyasu and Groopman[2] staging system for classic Kaposi's sarcoma). The patient was sent to an oncologist and began chemotherapy with vinblastine and weekly doses of radiation. Six months later, there were no indications of metastasis. His skin lesions have not increased in size or number or metastasized to any other organ systems.



**Figure 1.** Clinical presentation of the left foot with dark patchlike lesions along the dorsal aspect.



**Figure 2.** Clinical presentation of the left foot with dark lesions on the heel and lower leg.



**Figure 3.** Clinical presentation of the lateral aspect of the left foot.

## Discussion

Classic Kaposi's sarcoma is a rare neoplasm usually found in elderly people of Mediterranean ancestry. It presents with an indolent clinical course that is typically not fatal. The disease is commonly misdiagnosed initially as a simple bruise. The practitioner must closely follow the course of the illness to detect any spread of the lesions. Clinical observation of brown, blue, or red lesions should prompt the practitioner to consider classic Kaposi's sarcoma in the differential diagnosis for non-AIDS patients. In addition to taking

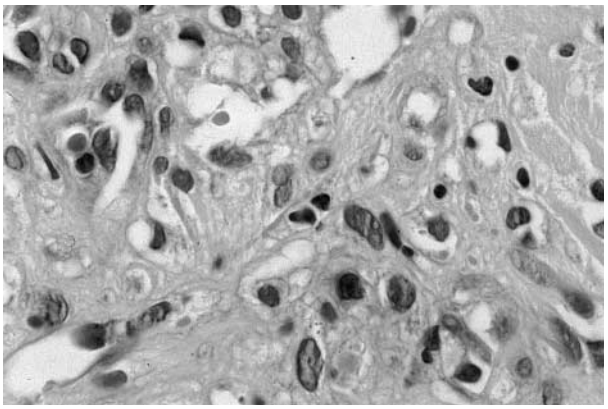


**Figure 4.** Atypical dermal spindle cells of vascular proliferation (H&E, ×1,000).

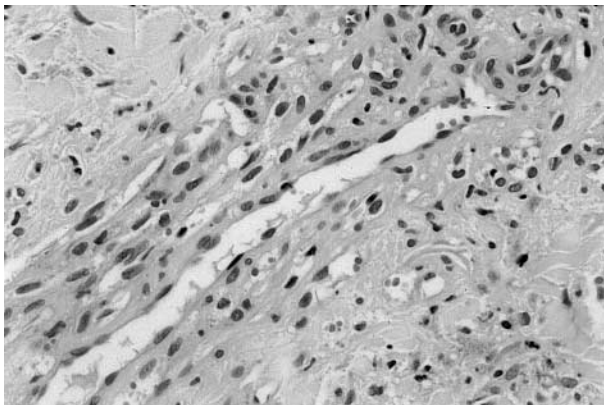


**Figure 5.** Atypical dermal spindle cells of vascular proliferation (H&E, ×400).

a detailed history, careful evaluation and biopsy must be performed to arrive at a definitive diagnosis.

The podiatric physician has a vital role to play in early detection of this uncommon disease. Treatment consists of radiation therapy, chemotherapy, and surgical excision. If the condition is diagnosed early, the prognosis is good.

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