

Classic Kaposi Sarcoma with Probable Pulmonary Involvement in an HIV-Negative Elderly Patient: A Case Report

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Abstract

Case Report

Kaposi Sarcoma is a vascular neoplasm associated with infection by Human Herpesvirus 8 [HHV-8]. The classical form usually occurs in elderly individuals and predominantly involves the skin of the lower extremities, whereas visceral involvement is uncommon compared with HIV-associated cases [1,2]. We report the case of an 89-year-old woman admitted for progressive angiomatous nodular lesions affecting both lower limbs. Dermatological examination revealed multiple violaceous macules, papules, plaques, and nodules associated with bilateral lower limb edema. Histopathological examination showed a dermal spindle-cell vascular proliferation with erythrocyte extravasation. Immunohistochemistry demonstrated strong positivity for HHV-8, confirming the diagnosis of Kaposi sarcoma. Imaging studies revealed peribronchovascular pulmonary micronodules with septal thickening as well as splenic and hepatic nodules suggesting systemic involvement. The patient was referred to oncology for systemic therapy with weekly low-dose paclitaxel. This case highlights an unusual presentation of classical Kaposi sarcoma with probable visceral involvement in an HIV-negative elderly patient.

Keywords: Kaposi Sarcoma, Human Herpesvirus 8, pulmonary involvement, elderly patient.

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INTRODUCTION

Kaposi Sarcoma is a multifocal angioproliferative tumor associated with infection by Human Herpesvirus 8 [HHV-8], which is considered a necessary factor in its pathogenesis [1]. Four epidemiological forms are classically described: classic, endemic African, iatrogenic related to immunosuppression, and HIV-associated Kaposi sarcoma [2].

The classical form mainly affects elderly individuals of Mediterranean or Eastern European origin and usually presents with slowly progressive violaceous lesions located on the lower extremities [3]. In contrast to AIDS-related Kaposi sarcoma, visceral involvement is relatively uncommon in the classical form [4].

Pulmonary involvement represents one of the most frequent visceral localizations in advanced Kaposi sarcoma but is rarely reported in immunocompetent HIV-negative patients with the classical form of the disease [5]. We report an unusual case of classical Kaposi sarcoma with radiological findings suggestive of

pulmonary and systemic involvement in an elderly HIV-negative patient.

CASE PRESENTATION

An 89-year-old woman was admitted for evaluation of angiomatous nodules involving the lower extremities. Her medical history included two episodes of severe SARS-CoV-2 pneumonia requiring intensive care unit admission in 2023, previously treated pulmonary tuberculosis declared cured in August 2025, and chronic aregenerative anemia evolving for approximately one year. She had also undergone surgical treatment for a femoral neck fracture in 2023. She had no history of diabetes, hypertension, autoimmune disease, or malignancy.

The skin lesions had appeared approximately two months before admission as violaceous macules on the distal lower limbs. They progressively evolved into papules and infiltrated nodules with gradual extension. This progression was accompanied by bilateral lower limb edema and plantar hyperkeratosis.

On physical examination, the patient was afebrile and hemodynamically stable. Conjunctival pallor was noted.

Dermatological examination revealed bilateral and symmetrical cutaneous involvement of the lower extremities, predominantly affecting the distal legs, perimalleolar areas, and feet. Multiple angiomatic violaceous lesions of different stages were observed, including macules, papules, plaques, and nodules, some of which were confluent and infiltrated on palpation. The plantar surfaces displayed infiltrated violaceous areas associated with diffuse hyperkeratosis. Bilateral pitting edema of the lower limbs was present [Figure1,2].

On the left palm, several flat violaceous macules were noted. Examination of the oral mucosa revealed a single bluish-violaceous lesion on the lower lip consistent with a venous lake. Bilateral axillary lymphadenopathy was also palpated.

A skin biopsy was performed. Histopathological examination showed a dermal proliferation composed of vascular channels and spindle cells with erythrocyte extravasation [Figure3]. Immunohistochemical analysis demonstrated strong

positivity for HHV-8 within tumor cells, confirming the diagnosis of Kaposi sarcoma.

Laboratory investigations revealed isolated aregenerative anemia with hemoglobin around 10 g/dL. Serological tests for HIV, hepatitis B, and hepatitis C were negative.

Computed tomography of the chest, abdomen, and pelvis showed peribronchovascular pulmonary micronodules with septal thickening, along with multiple splenic nodules and a hepatic nodule, raising suspicion for systemic involvement [Figure 4].

During hospitalization, the patient developed a bronchopulmonary infection caused by *Moraxella catarrhalis*, which was successfully treated with targeted antibiotic therapy.

After multidisciplinary evaluation, systemic treatment with weekly low-dose paclitaxel was recommended, and the patient was referred to oncology for further management.



Figure 1: Erythematous palmar lesions in the right hand



Figure 2: Clinical presentation showing multiple violaceous angiomatic macules, papules, and nodules involving both lower limbs with associated edema

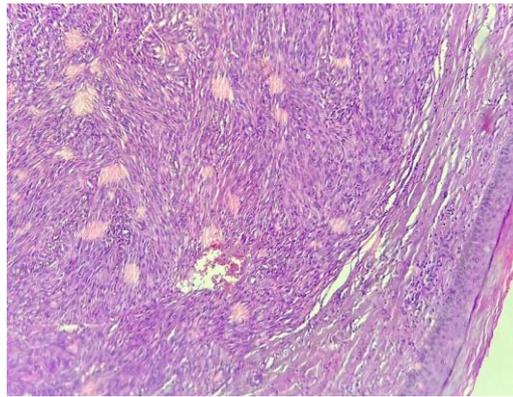


Figure 3: Histopathological examination showing dermal spindle-cell proliferation forming irregular vascular channels with erythrocyte extravasation

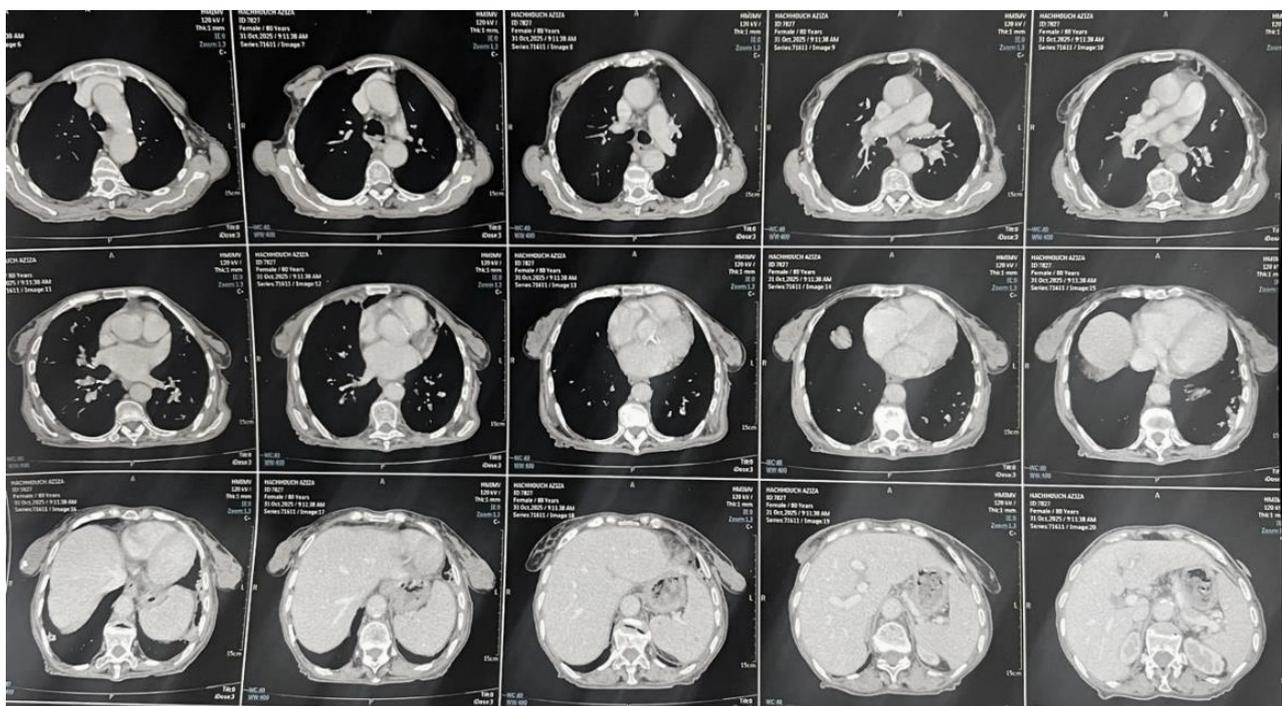


Figure 4: Chest computed tomography showing peribronchovascular pulmonary micronodules with septal thickening suggestive of pulmonary involvement

DISCUSSION

Classical Kaposi sarcoma is generally characterized by an indolent clinical course and predominantly cutaneous involvement of the lower limbs [3]. The lesions typically begin as violaceous macules that progressively evolve into plaques and nodules due to proliferation of spindle-shaped endothelial cells and the formation of abnormal vascular channels [1].

The role of Human Herpesvirus 8 in the pathogenesis of Kaposi sarcoma is well established, and detection of HHV-8 in tumor cells using immunohistochemistry is considered a key diagnostic criterion [2]. Histologically, the disease is characterized by spindle-cell proliferation forming irregular vascular spaces accompanied by erythrocyte extravasation and inflammatory infiltrates [3].

Visceral involvement in classical Kaposi sarcoma is relatively uncommon and usually occurs late in the course of the disease [4]. Pulmonary involvement, although well described in AIDS-related Kaposi sarcoma, remains rare in HIV-negative patients [5]. Radiological findings may include peribronchovascular nodules, interlobular septal thickening, and reticulonodular infiltrates reflecting tumor infiltration along bronchovascular bundles [5].

The differential diagnosis includes several conditions such as cutaneous T-cell lymphoma, pseudo-Kaposi lesions related to chronic venous insufficiency, and infiltrative dermatoses such as sarcoidosis. In the present case, the angiomatous appearance of the lesions, their symmetrical distribution on the lower extremities,

and the histological confirmation with HHV-8 positivity supported the diagnosis of Kaposi sarcoma.

Management depends on the extent of the disease and the patient's clinical condition. While localized cutaneous lesions may be treated with local therapies, systemic treatment is recommended in disseminated or visceral disease. Taxanes, particularly paclitaxel, have demonstrated significant efficacy in advanced Kaposi sarcoma and are widely used in this context [4].

CONCLUSION

This case illustrates an unusual presentation of classical Kaposi sarcoma in an elderly HIV-negative patient with extensive cutaneous lesions and radiological findings suggestive of visceral involvement. It highlights the importance of performing a thorough systemic evaluation in patients with Kaposi sarcoma, even in the classical form, in order to detect potential visceral disease and guide appropriate management.

Additional Information

Author Contributions: All authors have reviewed the final version to be published and agreed to be accountable for all aspects of the work.

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Disclosures

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Other relationships: All authors have declared that there are no other relationships or activities that could appear to have influenced the submitted work.

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