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Case Report

Case report of a Han ethnicity patient with Kaposi's sarcoma

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Abstract: Kaposi's sarcoma (KS) is known as multiple idiopathic hemorrhagic sarcoma. Its pathogenesis is complicated and related to abnormal angiogenesis, virus infections, etc. Human Herpes Virus-8 (HHV8) is increasingly linked to AIDS-associated KS. Herein, we reported a case of an 80-year-old male of Han ethnicity who developed dark red nodules on the inner popliteal fossa of his left leg without obvious predisposing causes two years ago. The nodules gradually increased in number, with unequal sizes, accompanied by discomfort. The patient was admitted to our hospital. Using clinical and tissue pathology combined with immunohistochemistry, the patient was diagnosed as the classical Kaposi's sarcoma of Han ethnicity. Local radiotherapy with electron beam (total dose 5000 cgy, 6 million electron volts, 5 mm depth, 200 cgy each time, 25 times in total) was adopted for treatment. After 10 days of radiotherapy, the nodules diminished and partially degraded, while after one month of radiotherapy, most nodules gradually vanished.

Keywords: Classic Kaposi's sarcoma, Han ethnicity

Introduction

Kaposi's sarcoma (KS) is a low-grade vascular malignancy. It is a multicentric and multi-systematic disease that involves the skin, and less commonly the visceral organs, such as the gastrointestinal tract, lung, and lymph nodes [1]. The clinical types of KS include classic type, AIDS-related type, immune suppression-related type and African type. Classic KS is a subtype that traditionally occurs in elderly HIV-negative males of Mediterranean, Eastern European, and Jewish descent. Patients with classic KS characteristically present with skin lesions in the distal extremities. Recently, sequences of a new human herpesvirus, KSHV/HHV-8, have been identified in classic KS [2]. The incidence of this disease is higher in Uygur patients in China. We reported a case of classic KS in an HIV-negative Han ethnicity Chinese male.

Case report

An 80-year-old male of Han ethnicity developed dark red nodules on the inner popliteal fossa of his left leg without obvious predisposing causes two years ago. The nodules gradually increased in number, with unequal sizes, accompanied by discomfort such as itching. The patient was diagnosed as angiolymphoid hyperplasia with eosinophilia and treated at other hospitals. Local laser treatment proved ineffective, and increasedthe skin rashes. The patient was transferred to our hospital for further diagnosis and treatment. The medical history of this patient indicated hypertension and type II diabetes, with no extra-marital sex or familial genetic disorders.

Physical examination showed enlarged superficial lymph nodes, but no abnormalities were found in cardiopulmonary and abdominal examinations. More than 20 dark nodules (diameters 0.2-0.9 cm) were found on the inner popliteal fossa of the left leg, with smooth surfaces and medium texture, non-ulcerative, some were lobulated, with pressing pain (**Figure 1**).

Electrocardiogram showed sinus bradycardia with arrhythmia, and complete right bundle

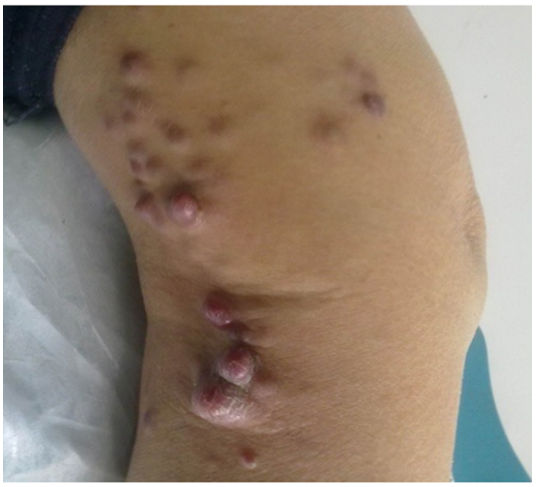

Figure 1. More than 20 dark nodules (diameters 0.2-0.9 cm) were found on the inner popliteal fossa of the left leg, with smooth surface and medium texture, non-ulcerative, and some were lobulated.

branch block. Chest X-ray and B-mode ultrasound were normal. PRP and TPPA were negative. Two consecutive HIV tests were negative. Pathology showed mild contraction of the skin, numerous hyperplastic endothelial cells and eosinophilic spindle cells within the dermis, and excessive red blood cells (**Figure 2**). Immunohistochemistry showed VIIIF (+), CD31 (+), and CD34 (+) (**Figure 3**).

Combining clinical and tissue pathology with immunohistochemistry, the patient was diagnosed as classical Kaposi's Sarcoma of Han ethnicity. Then, local radiotherapy with electron beam (total dose 5000 cgy, 6 million electron volts, 5 mm depth, 200.cgy each time, 25 times in total) was carried out on this patient. After 10 days of radiotherapy, the nodules diminished and partially degraded, while after one month of radiotherapy, most nodules gradually vanished (**Figure 4**).

Discussion

Kaposi's sarcoma (KS) is also known as multiple idiopathic hemorrhagic sarcoma. It has been increasingly reported in Xinjiang region for the past few years, and is often found in the local minorities. The disease is divided into four classes: classic KS, African KS, congener heterogeneous transplantation KS, and AIDS-associated KS [3].

The pathogenesis of KS is very complicated. Recent studies have shown that the pathogenesis is related to abnormal angiogenesis, virus infections, etc. Human Herpes Virus-8 (HHV8) has gained increasing attention in AIDS-associated KS. HHV-8 can be detected in the lymphoid system, peripheral blood mononuclear cells and seminal fluid of KS patients. HHV-8 is a neotype tumor virus that plays a vital role in the pathogenesis of KS [4, 5]. The DNA sequence of HHV-8 was detected in all types of KS. There is a positive correlation between disease progression and the level of HHV-8 [6]. HHV-8-infected host cells are considered to be the progenitor of tumor cells [7]. Meanwhile, the morbidity of KS is consistent with the distribution of HHV-8 worldwide [8].

Our patient was an elderly male of Han ethnicity, HIV-negative, considered to have classic KS. The diagnosis of this case depended on the clinical features, combined with pathology and immunohistochemistry. The pathology showed hyperplastic endothelial cells and eosinophilic spindle cells, excessive red blood cells and deposition of hemosiderin [9]. This case was distinct from spindle cell hemangioendothelioma and Kaposi form haemangioendothelioma. Spindle cell hemangioendothelioma has patulous thin-walled vascular sinus and histocyte-like round physaliphore. Immunohistochemistry of Kaposi form haemangioendothelioma is negative for the cytokine VIII-cognate antigen VIIIF.

Local radiotherapy is effective for most KS cases. Piccinno et al. observed 65 AIDS-associated KS cases in 1995 and found that-about 85% of skin lesions recovered after radiotherapy [10]. Our patient was an 80-year-old male, with more skin rashes. Hence, local electron beam radiotherapy was applied, with a total dose of 5000 cgy, 6 million electron volts, 5 mm depth, 200 cgy each time and 25 times in total. The treatment resulted in diminishing and resolution of most nodules, and follow-up is ongoing.

Disclosure of conflict of interest

None.

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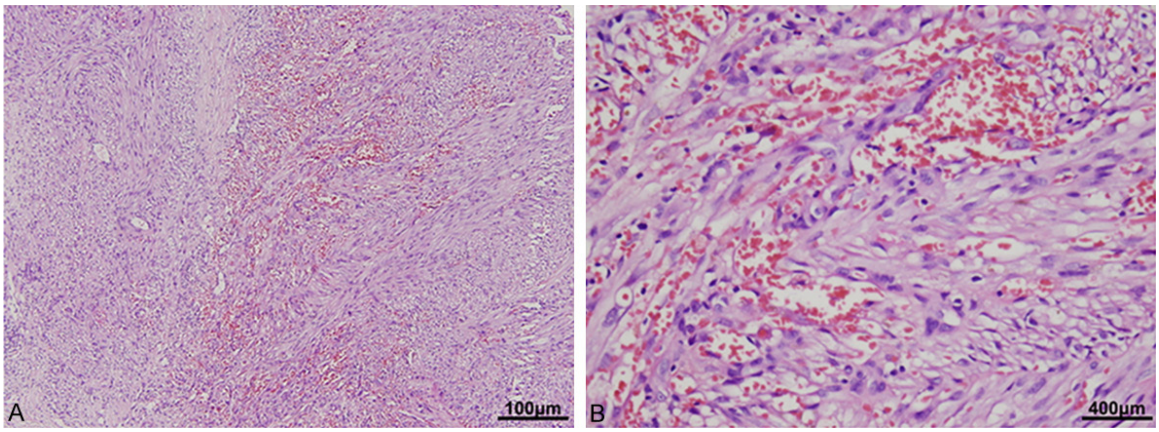

Figure 2. Tissue pathology of skin lesions. A: Mild atrophy of the epidermis, numerous hyperplastic endothelial cells and eosinophilic spindle cells within the dermis (HE X 40). B: Patulous blood vessel was seen within the dermis, and excessive red blood cells were seen in the periphery of the blood vessel (HE X 200).

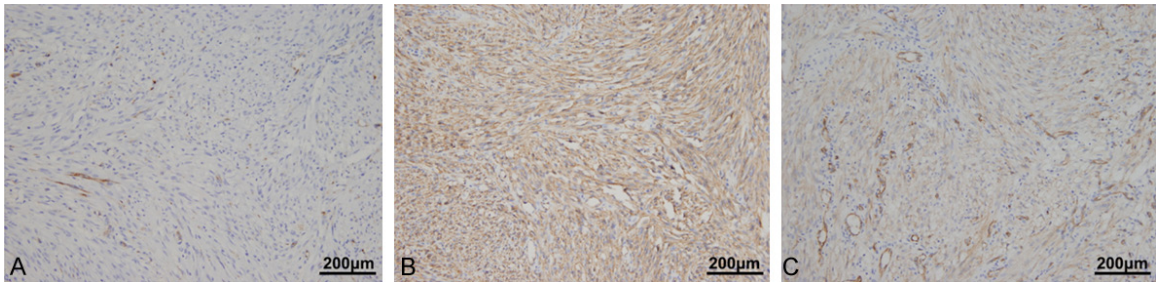

Figure 3. A: VIII (+); B: CD31 (+); C: CD34 (+).

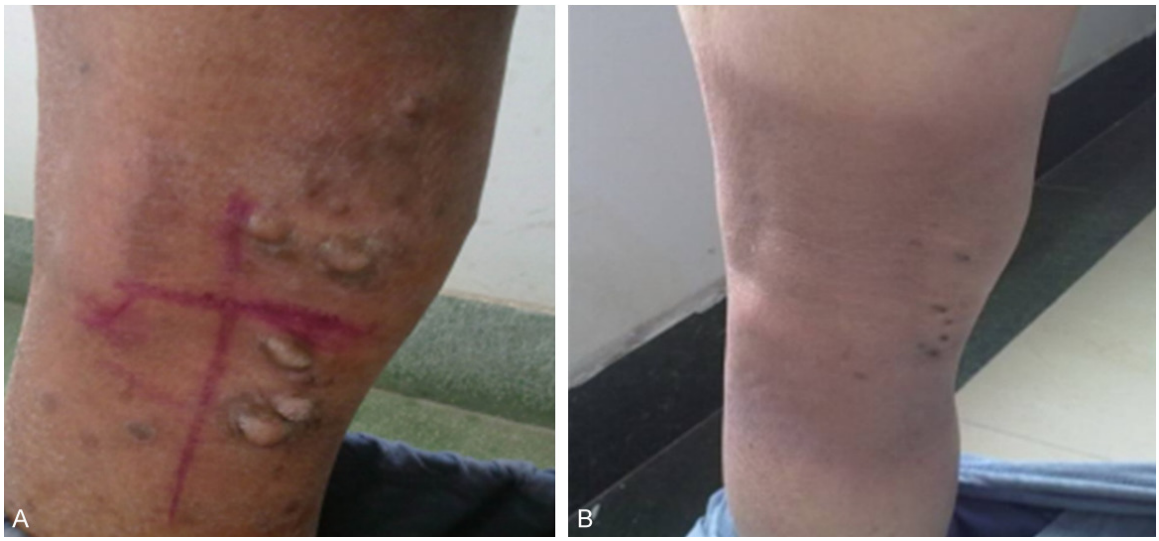

Figure 4. Skin lesion after local radiotherapy. A: After 10 days of radiotherapy, the nodules diminished and partially degraded. B: After one month of radiotherapy, most nodules had resolved.

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