CASE REPORT

Classic Kaposi’s Sarcoma: 
A Case Report and Literature Review

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Abstract:
Kaposi’s Sarcoma (KS) is a rare multifocal spindle cell tumor with four epidemiologic variants: classic KS, African endemic KS, AIDS related KS, and immunosuppressant therapy related KS. Classic KS remains a rare but challenging disease because of its protracted, indolent course. The authors describe a case recently observed in our clinic, emphasizing the clinical management of the disease.

Introduction:
Kaposi’s sarcoma (KS) is a multifocal spindle cell tumor, most likely of endothelial origin. Within the past decade, there has been increasing interest in this disease due to a global increase in incidence associated with the HIV/AIDS epidemic. Four epidemiologic variants of KS are recognized: classic KS, African endemic KS, AIDS related KS, and immunosuppressant therapy related KS. With respect to Qatar, the classic variant of KS is of particular clinical interest because it tends to occur mainly in older men of Mediterranean and Middle Eastern origin. As the disease is rare and its management remains a challenge, the authors describe a case, recently observed in our clinic.

Case Report:
The patient, a 77 year old Qatari male, known to have classic KS since 1994 was referred to Radiation Oncology after progression of his disease despite varied chemotherapy regimens including liposomal adriamycin, taxol, vinblastine and PUVA therapy. He had also received interferon therapy and had achieved partial remission for six months after which he suffered a relapse. The patient presented with painful lesions on the right and left feet and on the lower limbs. On physical examination, there was extensive skin involvement involving both lower limbs with pigmented nodular lesions with marked edema (Figure 1). There were also some areas of ulceration on the upper limbs. The patient is a known diabetic with hypertension and there was some evidence of peripheral neuropathy.

Complete blood count, renal and liver function tests were normal. HIV serology was negative. There was neither radiological nor endoscopic evidence of visceral involvement. Palliative electron radiotherapy (3000 cGy in 10 treatments) was given to the patient with the aim of relieving his symptoms and complaints. At eight weeks post treatment, some residual nodularity and tenderness was still present but the lesions had markedly decreased in size and the edema had also lessened. The disease remained stable for approximately 14 months when new lesions began to appear in the previously treated area. The area was re-treated with photon radiotherapy (2000cGy in 10 treatments).

Figure 1: Right knee/lower limb of the patient illustrating extensive nodular lesions and edema associated with classic KS.
Discussion:

Although being of Middle Eastern descent is often identified in the literature as being a typical feature of classic KS, there are very few published epidemiological studies detailing the disease in this geographic region. The majority of reports on classic KS originate from North American and European studies of patients of Jewish, Italian or Mediterranean descent. The usual onset of classic KS is at 50-70 years and the disease has a relatively benign, indolent course for 15 years or more. Older reports suggest that the disease occurs predominantly in males (male: female ratio of 15:1). However, recent studies suggest one to three male patients for every case involving a woman (3:1).

In the current case, the patient presented with the typical features of classic KS commonly reported in the literature. He has a long (13 year) history of disease, widespread cutaneous nodular skin lesions on the lower limbs that were painful and did not blanch on pressure, and lymphedema manifesting in both involved legs. Patients may also present with macular pigmented lesions or the lesions may be ulcerated. Patients with longstanding disease may develop lesions in the GI tract, other organs or in the lymph nodes but these are usually asymptomatic. Most patients are expected to die with the disease, rather than from the disease. However, up to 30% of patients will develop a second primary malignancy. Differential diagnosis of KS includes bacillary angiomatosis, ecchymoses due to a hemorrhagic disorder, hemangioma, pyogenic granuloma and malignant melanoma.

Other types of KS include epidemic KS, which is associated with immunologic deficiencies of AIDS. This is commonly seen in homosexual and bisexual men or heterosexual intravenous drug users. The disease tends to be very aggressive and is characterized by widespread multifocal cutaneous and/or mucocutaneous lesions, with eventual dissemination of the disease to lymph nodes and visceral organs. African KS is endemic to equatorial Africa and may carry an indolent (similar in clinical features to classic KS) or aggressive course. When involving prepubescent children it is frequently associated with visceral spread and overall poor prognosis. Immunosuppressant therapy related KS occurs in organ transplant patients or those receiving immunosuppressive therapy. The clinical course is similar to that of classic KS and there may be regression of the disease following interruption of therapy, or disease progression when prolonged high doses of the immunosuppressive drugs are used.

The pathogenesis of KS is still unclear. However, epidemiological evidence strongly links all variants of KS with Human Herpevirus 8 (HHV-8) infection. HHV-8 infection alone is not currently thought to be sufficient for the development of KS and additional co-factors are required but these have not yet been clearly identified. Microscopically, KS is characterized by an excessive proliferation of spindle cells, thought to be derived from an endothelial origin. Slit-like vascular channels containing erythrocytes and an extravasated inflammatory infiltrate may be present. With respect to the current patient, histopathological examination revealed proliferation of irregular vascular channels positive for factor VIII related antigen, and lined by plump endothelial cells with positive staining for CD34. These features are all consistent with a histopathological diagnosis of KS.

The different types of KS differ in their clinical course and prognosis and thus treatment considerations depend strongly on the variant of KS. Because classic KS usually follows an indolent course, a less aggressive therapeutic approach is often appropriate. There is to date however, no definitive cure for the disease. For solitary superficial lesions, surgical excision or cryotherapy is possible. For patients with symptomatic local disease or lesions which are cosmetically displeasing, radiation therapy is a widely used and effective local therapy. With respect to radiation modality, dose and fractionation, there is no universally accepted standard for treatment of KS. The choice of photon or electron therapy and the fields used depends on the extent of the disease and the judgement of the Radiation Oncologist. A higher cumulative dose results in better local control than lower doses.

This must be balanced however, against the total volume of tissue being irradiated in order to prevent treatment related complications.

Systemic therapy is indicated for extensive (more than 20 lesions) and/or symptomatic disease, visceral disease and symptomatic lymphedema. Chemotherapy using various agents has been used to treat KS including Vinblastine, liposomal Adriamycin, liposomal Daunorubicin and Paclitaxel with moderate to good response. However, systemic therapy often requires prolonged courses to maintain a response. There has been recent successful reports using interferon alpha, but the time to clinical response is long and toxicity including fatigue, myelosuppression and hepatotoxicity may be dose limiting.

In the patient under discussion, chemotherapy was well tolerated and initially proved effective but there was eventual disease progression with each type of agent used. The radiation therapy provided significant initial improvement with regression of disease and palliation of symptoms for up to 14 months. However, there was eventual progression of the disease.

Conclusion:

The above case demonstrates the complexity of clinical management of the patient with classic KS. The possibility of long life with the disease and its variable course means that offered treatments must be balanced against the possibility of noxious long term effects. Further, uncertainty surrounding its causation and the lack of an effective curative treatment suggest that research efforts should continue to be directed towards this rare but challenging disease.

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Al Hammadi N.M., et al.
References: