

## A brief note on kaposi sarcoma in HIV/AIDS patients.

Issac Ivan\*

Department of Medicine, University Hospital Zurich, Rämistrasse 100, Zurich, CH-8091, Switzerland9NH, UK

### Abstract

**Kaposi Sarcoma (KS) is a rare form of cancer primarily affecting the skin, but it can also involve other organs. Its association with HIV/AIDS has been well-established, and it is considered an AIDS-defining illness. This brief note provides an overview of KS in HIV/AIDS patients, including its epidemiology, clinical features, and treatment options. The incidence of KS increased with the HIV/AIDS pandemic, particularly in individuals with low CD4 cell counts. KS can present in various forms, including classic, endemic, epidemic, and iatrogenic. Treatment options depend on factors such as disease extent, immune status, and symptoms. Highly active antiretroviral therapy (HAART) is a key component of KS management, while localized therapies, systemic therapies (chemotherapy and immunotherapy), and anti-HHV-8 therapy may be employed based on individual patient characteristics. Supportive care measures are essential in improving quality of life. Ongoing research and advancements in treatment modalities offer hope for improved outcomes in KS patients with HIV/AIDS.**

**Keywords:** Kaposi Sarcoma, Human Herpesvirus 8, HHV-8, Highly Active Antiretroviral Therapy.

### Introduction

Kaposi Sarcoma (KS) is a rare form of cancer that primarily affects the skin, but can also involve other organs such as the lungs, liver, and gastrointestinal tract. It was first described by Dr. Moritz Kaposi in the late 19th century, and its association with HIV/AIDS was recognized in the 1980s. KS is caused by a virus known as Human Herpesvirus 8 (HHV-8), also called Kaposi sarcoma-associated herpesvirus (KSHV). This article provides a brief overview of Kaposi Sarcoma in HIV/AIDS patients, including its epidemiology, clinical features, and treatment options [1].

### Epidemiology

Kaposi Sarcoma was a relatively rare disease before the HIV/AIDS epidemic. However, the incidence of KS dramatically increased with the emergence of the HIV/AIDS pandemic. KS is now considered an AIDS-defining illness, meaning its presence in an HIV-positive individual indicates advanced immunosuppression. The risk of developing KS is directly related to the level of immunosuppression, with the highest incidence seen in individuals with low CD4 cell counts. KS is more common in certain populations, including men who have sex with men, individuals from Mediterranean, Eastern European, or African descent, and those with a history of organ transplantation. The prevalence of KS has decreased since the introduction of highly active antiretroviral therapy (HAART), which has improved immune function and reduced HIV viral load [2].

### Clinical Features

Kaposi Sarcoma can manifest in several clinical forms, which include:

**Classic KS:** This form primarily affects elderly men of Mediterranean or Eastern European descent. It typically presents as multiple skin lesions, often on the lower extremities. Classic KS tends to have a more indolent course and is less aggressive compared to other forms.

**Endemic KS:** This form is predominantly seen in regions of equatorial Africa, where HHV-8 is endemic. Endemic KS commonly affects young adults and children. It may involve lymph nodes and internal organs in addition to the skin. In some cases, it can cause life-threatening complications.

**Epidemic KS:** This form is associated with HIV/AIDS and accounts for the majority of KS cases worldwide. Epidemic KS can affect any age group, but it is most commonly observed in men who have sex with men. It typically presents as widespread skin lesions, often involving the face, trunk, and extremities. Internal organ involvement is more common in this form of KS.

**Iatrogenic KS:** This form occurs in individuals who have received immunosuppressive therapy, such as organ transplant recipients. The clinical presentation is similar to epidemic KS, with multiple skin lesions and potential internal organ involvement [3].

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\*Correspondence to: Issac Ivan, Department of Medicine, University Hospital Zurich, Rämistrasse 100, Zurich, CH-8091, Switzerland, E-mail: [issac.ivan@yahoo.com](mailto:issac.ivan@yahoo.com)

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## Treatment options

The management of Kaposi Sarcoma in HIV/AIDS patients requires a multidisciplinary approach involving oncologists, infectious disease specialists, and HIV specialists. The treatment options for KS depend on various factors, including the extent of disease, immune status, and the presence of systemic symptoms. Highly Active Antiretroviral Therapy (HAART): The introduction of HAART has significantly improved the prognosis of HIV/AIDS patients, including those with KS. HAART improves immune function, reduces HIV viral load, and can lead to regression or stabilization of KS lesions. It is an essential component of KS management and should be initiated in all HIV-positive individuals with KS.

**Localized therapy:** For localized skin lesions, several treatment modalities can be used, including:

**Local excision:** Surgical removal of individual lesions may be considered for small, accessible lesions that cause significant symptoms or disfigurement.

**Radiation therapy:** Radiation therapy can be used to treat localized or symptomatic KS lesions. It involves targeting the affected area with high-energy radiation to destroy cancer cells. Radiation therapy is effective in reducing the size of lesions and relieving associated symptoms [4].

**Systemic Therapy:** When KS becomes more extensive or involves internal organs, systemic therapy is typically required. The choice of systemic therapy depends on factors such as the extent of disease, immune status, and individual patient characteristics. Some commonly used systemic therapies for KS include:

**Chemotherapy:** Chemotherapy drugs, such as liposomal doxorubicin or paclitaxel, can be used to treat advanced or aggressive KS. These drugs work by killing rapidly dividing cancer cells. However, they can have significant side effects and may require close monitoring.

**Immunotherapy:** Immunotherapy has shown promising results in the treatment of KS. Immune checkpoint inhibitors, such as pembrolizumab or nivolumab, can be used to boost the immune system's ability to recognize and attack cancer cells. These drugs block proteins on cancer cells that inhibit the immune response. Immunotherapy has demonstrated favorable outcomes in advanced KS, with some patients experiencing tumor regression and prolonged survival.

**Anti-HHV-8 therapy:** Given that HHV-8 is the underlying cause of KS, targeting the virus directly has been investigated

as a treatment approach. Antiviral drugs, such as ganciclovir or valganciclovir, have shown some efficacy in reducing HHV-8 viral load and improving KS lesions. However, the use of antiviral therapy alone may not be sufficient, and combination therapy with other treatments may be required.

**Supportive care:** KS can be associated with various symptoms, including pain, swelling, and ulceration. Palliative care measures, such as pain management, wound care, and psychosocial support, play a crucial role in improving the quality of life for patients with advanced KS [5].

## Conclusion

Kaposi Sarcoma remains a significant health concern in HIV/AIDS patients, although its incidence has decreased with the advent of HAART. The interplay between HIV infection, immune suppression, and HHV-8 plays a critical role in the development and progression of KS. Early initiation of HAART is essential in all HIV-positive individuals with KS, as it can lead to regression or stabilization of lesions. The treatment of KS requires a comprehensive approach, considering the extent of disease, immune status, and individual patient factors. Localized therapies, such as excision or radiation, can be effective for limited skin lesions. Systemic therapies, including chemotherapy, immunotherapy, and anti-HHV-8 therapy, are options for advanced or aggressive KS. Supportive care measures are essential in managing symptoms and improving the overall well-being of patients.

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