

CASE REPORT

Purplish plaques in a patient having sudden significant weight loss and chronic diarrhea

Naser A. Qasem, MD, Fatma A. Al Khawaga, MD

Dermatology Department, Al-Adan Hospital, Ministry of Health, Kuwait

ABSTRACT

AIDS-related Kaposi's (KS) Sarcoma is an entity commonly described in HIV positive homosexual males. The infection with HHV-8 virus together with the HIV virus infection of T cells has been strongly correlated to the onset of KS in individuals that have been infected with the HIV virus through sexual means. KS can present at any time during an HIV infection, but mostly occurs when the CD4 count is < 200 cells/mm³. We are presenting a 48-year-old otherwise healthy patient who presented with bluish plaques, one on the tip of his nose and the other located on his right forearm, for six months. On strong clinical suspicion, he was investigated for HIV infection and was found to be HIV positive.

KEYWORDS: Kaposi's sarcoma, HIV, AIDS, Immunodeficiency

PATIENT HISTORY

A 48-year-old Arab male with no significant previous medical or surgical history of disease, presented to the dermatology department at the Al Adan Hospital with new blue colored skin lesions that had been developing for six months prior to his presentation. The patient also reported sudden weight loss of about 15 kg in the last 2-3 months. He additionally described changes in bowel movements in the form of diarrhea and a general feeling of lethargy and fatigue. The patient has no history of smoking or alcohol consumption and was not on any medication and has no history of drug allergies. There was no family history of skin diseases.

CLINICAL APPEARANCE

The patient was Fitzpatrick skin type IV. There was a painless 1.5×2.0 cm purple nodule on the



Fig. 1 A purple nodule on the patient's right arm.

his right arm (Fig. 1), and similar scaly relatively flat plaque on the tip of the nose (Fig. 2). A punch biopsy was obtained from the lesion on his right arm. Sections of the biopsy showed intradermal, interconnecting, CD34+ve endothelial proliferation with dissecting dermal collagen. Few inflammatory cells, hemosiderin deposits and eosinophilic hyaline globules were

Correspondence: Dr. Naser A. Qasem, Dermatology Department, Al-Adan Hospital, Arjan Hussain Al Arjan Street, Block 5, Hadiya, Al-Ahmadi, Postal code: 52700, Kuwait. Tel: +965 95565157 - E-mail: naserqasem@outlook.com

identified. There were also disorganized clefts and neovascularization encompassing scattered erythrocytes. Spindle cells demonstrated mild atypia with occasional mitosis. Immunohistochemistry was positive for HHV-8. Thus, after clinicopathological correlation the diagnosis of Kaposi's sarcoma was made.

Numerous attempts to contact the patient failed. However, two weeks later the patient was admitted in our hospital with persistent cough and shortness of breath, and the diagnosis of community-acquired pneumonia was established. Dermatological assessment of the patient further revealed the presence of an additional skin lesion located on his left thigh. An HIV test was carried out on the patient which came out positive. The patient was subsequently transferred to the Department of Infectious Diseases at the Al Sabah hospital.



Fig. 2 A similar lesion on the patient's nose.

DISCUSSION

Kaposi's sarcoma can be described as a multifocal and antiproliferative neoplasm that usually presents on external dermal surfaces such as the skin or might present in visceral organs as well. Histopathological characteristics of KS involve the increased presence of spindle cells demonstrating vascular slits with invasion of endothelial cells.¹ The presence of extravasated erythrocytes and hemosiderin-filled macrophages are also observed in these lesions.

KS can be stratified into four different epide-

miological forms: the classic form, the endemic form, immune-suppressive associated (iatrogenic) KS and AIDS-related KS. The classic form of KS typically affects men more commonly than women (15:1 ratio) with the prognosis of the patient after diagnosis being about 10 years. The classic form of KS is most prevalent in the Mediterranean more than in the United States and the rest of Europe. This form was first reported by Moritz Kaposi in 1872, which was principally observed in elderly men of Mediterranean or eastern European ethnicity. He first described the characteristics of the lesions as being blue-red in color with the presence of nodules the size of peas. The manifestation of the lesions were without any known cause. Also, the lesions were described by Kaposi as being sometimes large protrusions or small clusters of flattened lesions. Disease progress was described as nodule atrophy with or without involvement of the lymph nodes.² Before the AIDS epidemic in the 1980s, there was a three-fold higher prevalence of KS in the Italian and Mediterranean population (20-30%) in comparison to the United States and Europe (<10% of the population).³ The endemic form of KS is typically prevalent in central Africa affecting men, women and children and accounting for more than 48.6% of male cancers and 17.9% of female cancers.⁴ The iatrogenic form of KS accounts for more than 200-fold increased incidence of KS in immune compromised individuals and organ transplant recipients. Overall, it is estimated that more than 44, 247 new cases of KS have been diagnosed with a reported 26, 974 deaths worldwide. An estimated 40,874 new cases are diagnosed in under developed countries compared to only about 3,373 cases in developed countries.⁵

AIDS-related Kaposi's sarcoma

The HIV virus is one of the major causative factors of KS in combination with the HHV-8 virus in HIV-infected patients. The infection of individuals with the HHV-8 virus together with the HIV virus infection of T cells has been strongly correlated to the onset of KS in homosexual individuals and other individuals that have been infected with the HIV virus through sexual means.⁶ The progression of AIDS-related KS is dependent on the extent of tumor formation, the level of immunosuppression and the presence of other opportunistic infections such as tuberculosis and community acquired pneumonia. KS can present at any time during an HIV infection, but commonly occurs when the CD4 count is < 200 cells/mm³.⁷

Biopsies of samples from patients with KS demonstrated the presence of the Kaposi-sarcoma-associated herpesvirus (KSHV) (HHV-8) which was observed not only in AIDS-associated KS patients but in HIV-negative KS as well. The presence of this virus is correlated to the presence of body cavity lymphomas which is associated with AIDS. This virus is also linked to the secretion of a number of cytokines and growth factors such as IL-1 β , IL-6, TNF- α and basic Fibroblast Growth Factor (bFGF) which are factors that cause the increased proliferation of spindle and endothelial cells which promote the onset and pathogenesis of the disease.⁸

Our patient had previously denied any recreational/IV use of drugs, had no previous surgeries and no history of receiving any blood products. As such, the most likely route of infection with the HIV virus was sexual intercourse with an HIV infected individual. No further discussion on the perceived mode of transmission of the virus was done with the patient due to social and religious

barriers.

Review of Kaposi's sarcoma in the Middle East and the gulf region

KS is a rare occurrence in the Middle East and gulf region. Classic KS has been reported in about 2 cases in Oman while it has significantly been under-reported in the Middle East and gulf region. Additionally, a study conducted by Alzahrani *et al.*⁹ demonstrated an increased seroprevalence of the human herpes virus-8 (HHV-8) in renal transplant recipients (18%) in Saudi Arabia which was correlated to an increased incidence of iatrogenic KS much higher in these patients than in the normal populations.⁹ Additionally, a study conducted by the AIDS-defining Cancer Project Work Group on the prevalence of AIDS-associated KS across five continents demonstrated that the Middle East/Asia had the lowest HIV-associated KS prevalence in the world with an estimated KS incidence rates per 100,000 person of between 52 to 500 in this region.¹⁰ The risk factor most commonly associated with AIDS-associated KS was the practice of unsafe sex with commercial sex workers, the refusal of treatment with ARTs and a CD4 count of < 200 cells/mm³.

HIV/AIDS in the Middle East and the gulf region

The prevalence of HIV/AIDS in the Middle East and the gulf region is low and as of 2020, close to 240,000 individuals are said to be living with the virus with the prevalence in individuals between 15-49 years of age being $< 0.1\%$ of the population. About 20,000 new infections have been diagnosed and about 8,400 people have died due to AIDS-related illness. HIV/AIDS was

mostly prevalent in sex workers, individuals that inject opiates and other illegal substances and homosexual individuals. In the Middle East region, just 47% of individuals are aware of their HIV/AIDS status and 32% of adults and 35% of children are currently being treated with ART in this region. In the Arab world, women are most at risk of HIV infections and this is most likely associated to their socially disadvantaged positions from within the society.¹¹ The lack of independent sources of income and low literacy rates prevents women from gaining proper access to health education, information about HIV/AIDS, how to practice safe sex and how to prevent unwanted sexual advances from men given the fact that most HIV/AIDS infections are transmitted sexually through rape. Arab women represent about half the total number of individuals that harbor HIV/AIDS and more than 80% of women contracted the virus through unsafe sexual practices from their husbands.¹²

Stigma associated with HIV/AIDS in the Middle East and the gulf region

Same sex relationships are considered to be illegal in all gulf states and Middle East countries and individuals caught in same-sex relationships might be subject to the death penalty in these regions. Additionally, individuals that are known to practice homosexual or heterosexual relationships outside of marriage are prone to be prosecuted under specific laws in the Middle East.¹³ Lack of awareness and an absence of sexual education is responsible for the key rise in HIV/AIDS in these regions. Methods of prevention of sexually transmissible diseases such as the use of condoms as a mean of practicing safe sexual intercourse is generally not deemed acceptable in

the Middle East and the gulf region.¹⁴ Individuals who are HIV positive face discrimination in the Middle East and the gulf region given the fact that once the HIV/AIDS status of an individual is known by the wider population, most individuals face discrimination in terms of getting adequately paid work, treatment in hospital and other community wide services. This is due to the fact that there is a common belief that individuals with HIV/AIDS are regarded as being unclean.¹⁵ Individuals living with HIV/AIDS were most likely to be dismissed from their areas of employment than individuals with an undisclosed HIV/AIDS status. Countries like Egypt have enacted laws ruling it illegal to dismiss an individual based on his HIV/AIDS status. Despite landmark ruling in changes in laws protecting the rights of HIV/AIDS individuals, discrimination is still a widespread occurrence in individuals that have been diagnosed with HIV/AIDS in these regions.¹⁶ Despite the fact that several attempts have been carried out to increase the awareness of HIV/AIDS in the population of these regions, most of these attempts do not address the need for better access to information on HIV/AIDS and how to practice safe sex. Studies conducted in Saudi Arabia, Yemen and Kuwait have largely focused on the knowledge and impact of HIV/AIDS on stigma and non has focused on delivering adequate reproductive health and sexual education to at most risks groups such as young adults and women in general.¹⁷

CONCLUSION

The Middle East has the lowest HIV/AIDS prevalence in the world. Nevertheless, the low number of cases compared to other countries does not mean that the region is addressing the problem.

There is now a notable increase in the cases of HIV/AIDS in the Middle East and this is said to be largely due to the lack of awareness of HIV, and absence of effective sexual education. Aside from the lack of information, the region has ongoing stigma with communities who are infected by the virus. Tackling these issues will lead to a decrease in the prevalence of HIV/AIDS and an improvement in the prognosis of infected individuals.

REFERENCES

1. Reitz Jr, M. S, Nerurkar L. S, Gallo R. C. Perspective on Kaposi's Sarcoma: Facts, Concepts, and Conjectures. *JNCI: J Nat Cancer Inst.* 1999; 91(17):1453-58.
2. R.A., S. A history of Kaposi's sarcoma. *J Royal Soc of Med.* 1986; 79:532-34.
3. Semango G. P, Charles R. M, Swai C. I, Mremi A, Amsi P, Sonda T, Shao E. R, Mavura D. R, Joosten L. A. B, Sauli E, Nyindo M. Prevalence and associated risk factors for Kaposi's sarcoma among HIV-positive patients in a referral hospital in Northern Tanzania: a retrospective hospital-based study. *BMC Cancer.* 2018; 18(1):1258.
4. Wabinga H. R, Mugerwa J. W, Parkin D. M, Wabwire-Mangen F. Cancer in Kampala, Uganda, in 1989-91: Changes in incidence in the era of aids. *Int J Cancer.* 1993; 54(1):26-36.
5. Curtiss P, Strazzulla L. C, Friedman-Kien A. E. An Update on Kaposi's Sarcoma: Epidemiology, Pathogenesis and Treatment. *Dermatol Therapy.* 2016; 6(4):465-70.
6. Ruocco E, Ruocco V, Tornesello M. L. Since January 2020 Elsevier has created a COVID-19 resource centre with free information in English and Mandarin on the novel coronavirus COVID- research that is available on the COVID-19 resource centre - including this Kaposi's sarcoma: Etiology and pathogenesis, inducing factors, causal associations, and treatments: Facts and controversies. January. (2020).
7. Mehta S, Garg A, Gupta L. K, Mittal A, Khare A. K, & Kuldeep, C. M. Kaposi's sarcoma as a presenting manifestation of HIV. *Ind J Sexually Transmitted Dis and AIDS.* 2011; 32(2):108-10.
8. Douglas J. L, Gustin J. K, Moses A. V, Dezube B. J, Pantanowitz L. Kaposi Sarcoma Pathogenesis: A Triad of Viral Infection, Oncogenesis and Chronic Inflammation. *Translational Biomed.* 2010; 1(2):172.
9. Alzahrani A. J, El-Harith E.-H. A, Milzer J, Obeid O. E, Stuhmann M, Al-Dayel A, Mohamed E. A, Al-Egail S, Daoud M, Chowdhury A, Guella A, Aloraifi I, Schulz T. F. Increased seroprevalence of human herpes virus-8 in renal transplant recipients in Saudi Arabia. *Nephrol Dialysis Transplantation.* 2005; 20(11):2532-36.
10. EuroCoord T. A. C. P. W. G. for I. and C. in. Comparison of Kaposi Sarcoma Risk in Human Immunodeficiency Virus-Positive Adults Across 5 Continents: A Multiregional Multicohort Study. *Clinical Infectious Diseases.* 2017; 65(8):1316-26.
11. Obermeyer C. M. HIV in the Middle East. *BMJ (Clinical Research Ed.).* 2006; 333(7573):851-54.
12. Shawky S, Soliman C, Kassak K. M, Oraby D, El-Khoury D, Kabore I. HIV surveillance and epidemic profile in the Middle East and North Africa. *Journal of Acquired Immune Deficiency Syndromes.* 1999; 51(Suppl 3):S83-S95.
13. Kamarulzaman A. Fighting the HIV epidemic in the Islamic world. *The Lancet.* 2013; 381(9883):2058-60.
14. Zoboli F, Martinelli D, Di Stefano M, Fasano M, Prato R, Santantonio T. A, Fiore J. R. Correlation between knowledge on transmission and prevention of HIV/STI and proficiency in condom use among male migrants from Africa and Middle East evaluated by a Condom Use Skills score using a wooden penile model. *BMC Research Notes.* 2017; 10(1):216.
15. Gökengin D, Doroudi F, Tohme J, Collins B, Madani N. HIV/AIDS: trends in the Middle East and North Africa region. *Int J Infectious Dis.* 2016; 44:66-73.
16. Mahajan A. P, Sayles J. N, Patel V. A, Remien R. H, Sawires S. R, Ortiz D. J, Szekeres G, Coates T. J. Stigma in the HIV/AIDS epidemic: a review of the literature and recommendations for the way forward. *AIDS (London, England).* 2008; 22(Suppl 2):S67-S79.
17. Al-Ghanim S. A. Exploring public knowledge and attitudes towards HIV/AIDS in Saudi Arabia. A survey of primary health care users. *Saudi Med J.* 2005; 26(5):812-18.