

Kaposi Sarcoma in Calabar, Southern Nigeria

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Abstract

Objectives: There has been an increase in the prevalence of Kaposi sarcoma (KS) with the emergence of Human Immunodeficiency Virus (HIV).

Methods: Patients with histologic diagnosis of KS seen in the University of Calabar Teaching Hospital, Calabar between January 2007 and December 2008 were studied. Diagnosis of HIV was based on enzyme linked immunosorbent assay (ELISA).

Results: In total, 15 patients (10 males, 5 females, M: F=2:1) presented with KS and accounted for 33.0% of total skin malignancy and ranked second after squamous cell carcinoma, 42.0%. Their ages ranged from 5 and 60 years (mean 37.5 years). Twelve patients (M=8, F=4), 80%, were HIV seropositive, while

3 (M=2, F=1) were HIV seronegative. The lower limb was the commonest affected site, 57.9%.

Conclusion: The most common clinical type was HIV related KS. Ignorance, sociocultural beliefs, poverty, late presentation were underlying issues.

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Introduction

A Hungarian dermatologist Moritz Kaposi first described Kaposi sarcoma in 1872. There are 4 clinical variants of the disease: classic, African (endemic), immunosuppression (transplant) associated and Acquired Immuno Deficiency Syndrome (AIDS)-associated KS with identical histologic features.¹ This tumour was endemic in Africa even before the advent of HIV.² Since the emergence of HIV infection, there has been a steady increase in the prevalence of KS world wide.^{3,4} This study sought to identify the current clinical pattern, challenges of management of KS in our region.

Methods

All the patients with clinical evidence of KS had histopathological evaluation of biopsy specimen to confirm the diagnosis. The period of study was between January 2007 and December 2008. This was compared with total skin malignancy seen during the same period as part of our prospective study of malignant skin tumours. Serology test for HIV antibodies were performed using the Enzyme Linked Immuno Sorbent Assay (ELISA). CD4 cell count was by the dyna bead method and patients with counts <200 cells/dl were offered anti retroviral therapy in addition to chemotherapy (Dactinomycin/vincristine), while those with counts >200 cells/dl had chemotherapy. Viral load studies were not available. Vascular markers study by immunohistochemistry for confirmation of CD31, CD34 and factor VIII were not available in our centre.

An in situ hybridization study for herpes simplex virus type 8 in biopsy specimen was also not available. Evaluation of response was clinical and categorized into no regression, partial regression and complete regression.

Results

In total, 15 patients (10 males, 5 females) with a male to female ratio of 2:1 presented with KS. This accounted for 33.0% of skin malignancies seen in the same period and ranked second following squamous cell carcinoma (SCC), 42.0%, others were melanoma 13%, basal cell carcinoma 5%, metastatic carcinoma 5% and dermatofibrosarcoma protuberans 2%. They ranged in age from 5 and 60 years (mean 37.5 years). Twelve patients (M=8, F=4), 80%, were HIV positive, their ages ranged from 5 and 60 years (mean 35.6 years) and 3 (M=2, F=1), 20% were HIV negative, and their ages ranged from 19 and 58 years (mean 45 years), Table 1.

Table 1: Age/ Gender/ Serology distribution

Age Range	Gender				Total (%)
	M		F		
	Sero +ve	-ve	Sero +ve	-ve	
1 – 10	1				1(6.7)
11 – 20		1			1(6.7)
21 – 30			2		2 (13.3)
31 – 40	4		1		5 (33.3)
41 – 50	3				3 (20.0)
51 – 60		1	1	1	3 (20.0)
Total	8	2	4	1	15 (100)

They were all heterosexuals. Most had topical herbal treatment for periods that ranged from 3 months, and 2 years (mean 9 months). Some patients presented in grotesque picture with fungating lesions (figures 1 and 2).



Figure 1: Kaposisarcoma (seronegative)



Figure 2: Kaposisarcoma (HIV seropositive)

These lesions were dressed with honcrivine (honey and acriflavine) and antibiotics administered based on sensitivity. The common isolates were pseudomonas, proteus, and E coli.

Table 2 shows the site distribution of the lesions. The lower limb, Figure 1 ranked first 11 (57.9%), 9 seropositive, 2 seronegative. The upper limb was involved in 2 patients (seropositive-1, Figure 2 and seronegative-1). Two groin lesions found were lymphadenopathy in seropositive patients; Figure 3 shows section of lymphoid tissue with proliferating vascular channels with slit like appearance.

Table 2: Site Distribution of KS

Region	Sero positive	Sero negative	Total(%)
Head/ Neck	2		2 (10.5)
Upper Limb	1	1	2 (10.5)
Trunk	1		1 (5.3)
External genitalia	1		1 (5.3)
Groin	2		2 (10.5)
Lower Limb	9	2	11 (57.9)
			100

Three patients were HIV seronegative; one received a ray amputation for a localised toe lesion with destruction of the bone. The site healed and there was no evidence of new lesion within the 6 months of follow up. Two patients received cytotoxic chemotherapy (Dactinomycin, vincristine) with partial regression of nodules. They were lost to follow up after 3-5 months (Table 3a)

Table 3a: Treatment/ Outcome

Sero negative (n=3)

No. of Patients	Surgery	Cytotoxic chemotherapy	Outcome/ (follow up)
1	Ray amputation (toe lesion with bony destruction)	-	Healed (6 months) no new lesion
2		Dactinomycin and Vincristine	Partial regression of nodules. Lost to follow up (3 months)
		Vincristine/ Dactinomycin	Partial regression of nodules (5 months)

The results were generally poor for the HIV seropositive patients, 6 patients were lost to follow up after diagnosis. Two patients received cytotoxic chemotherapy (Dactinomycin/ vincristine) and antiretroviral drugs with no regression of nodules, 3 who received cytotoxic chemotherapy had partial regression of nodules. All the patients were lost to follow up after 4-5 months of follow up. Patients were lost for fear of stigmatization, sociocultural reasons, and inability to afford drugs. There was one hospital mortality. (Table 3b)

Table 3b: Sero positive (n=12)

No. of Patients	Surgery	Cytotoxic chemotherapy	ARV therapy	Outcome/ (follow up)
6	–	–	–	Lost to follow up
3	–	Vincristine/ Dactinomycin	–	Partial regression of nodules (4-5 months)
2	–	Vincristine/ Dactinomycin	Yes	No regression of nodules (4 months)
1	–	–	–	Fatal

Discussion

Kaposi sarcoma is a common malignancy in our region. It ranked second in frequency, 33.0% after SCC 42.0%. In the United states, skin cancer is the most frequent diagnosed cancer; of these, approximately 80% are basal cell carcinoma and 20% are SCC, the second most common skin cancer.⁵ In Africa, several studies reveal the preponderance of SCC and in Tanzania, KS is the second most common dermatologic malignancy.^{6,7} There are regional differences in the prevalence of KS with lower figures recorded in the northern Nigeria. In Kano, northern Nigeria, KS was the 4th most prevalent malignant skin tumour (8%)⁸ and Maiduguri, northeastern Nigeria 16%.⁹ The annual hospital incidence in the present study was 7.4 cases per year when compared to our previous of 5.5 cases per year.² Pitche et al in Togo¹⁰ reported an annual incidence of 8.5 cases per year, Kagu et al in Maiduguri, northeastern Nigeria 10 cases per year.¹¹ However, Mbah et al in Sokoto,¹² Northwestern Nigeria reported an average hospital incidence of 2.5 cases per year.

Eighty percent of the patients were HIV seropositive and 20% seronegative. This is at variance with an earlier publication in this centre that suggested that KS was not related to HIV infection.¹³ This current clinical pattern is in keeping with reports from Nigeria and other countries inflicted with HIV epidemic: Mohhamed et al in Kano, northern Nigeria (HIV positive 59.3%, negative 40.7%),¹⁴ Mbah et al in Sokoto, northeastern Nigeria (HIV positive 59.3%, negative 40.75%),¹² and Pitche et al in Lome, Togo (HIV positive 78.5%, negative 21.5%).¹⁰ All our patients were heterosexuals; however, HIV was acquired through mainly homosexual contact in Sao Paulo, Brazil where HIV positive patients were 25.2%.¹⁵

The male: female ratio in this report was 2:1. Onunu et al in Benin, south western Nigeria reported M: F ratio of 1.6:1.¹⁶ This is contrary to previous Nigerian studies that reported the occurrence

of KS exclusively in men.¹³ Wabinger et al reported in endemic KS a M : F ratio of 15:1.¹⁷ The prevalence of HIV related KS is increasing in Nigeria with the increase in the number of women being diagnosed with this form of KS, probably owing to more females having HIV disease.^{16, 18}

The HIV patients were younger (mean 35.6 years) when compared to the HIV negative (45 years). Kagu et al northeastern Nigeria¹¹ reported a median age of 37 years and Pitche et al in Togo¹⁰ 33.8 years. HIV related KS has been known to affect younger patients than the endemic type. In Nigeria, there is a downward shift in mean age from earlier account due to the changing pattern of KS with HIV positive being more frequent than negative.¹⁴

The predominant site affected was the lower limb with some presenting in grotesque picture of fungating lesions (Figure 1).



Figure 3: H&E x40 Kaposi Sarcoma sections shows lymphoid tissue with proliferating vascular channels with slit like appearance

Ignorance, sociocultural factors, and poverty were notable factors as all the patients had prior topical herbal treatment

before presentation and this accounted for the late presentation. Other reports attest to the lower limb as the commonest affected site.^{2, 3,12}

Some patients were lost to follow up after the diagnosis of HIV infection for fear of stigmatisation. Others were lost due to poverty, as they could not afford to pay for drugs. Endemic KS responds to chemotherapy while AIDS related KS might not and has a poor prognosis.^{19,20} This underscores the need for prevention. The facility for measuring the viral load and differences in viral genome is not available in our centre; this could have explained the differences in response to chemotherapy in the HIV subset. Radiation therapy provides excellent results with few side effects in all types of KS.²¹ None of our patients had radiotherapy, as this facility is not available in our centre. Those referred were unwilling because of cost.

Conclusion

In conclusion, HIV related KS is the most common clinical type in our region. Ignorance, sociocultural beliefs, poverty were underlying issues.

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