

Epidemiological Data on the Histopathological Diagnosis of Kaposi's Sarcoma in Brazzaville, Republic of Congo

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ABSTRACT

Introduction: Kaposi's sarcoma is endemic in sub-Saharan Africa and remains to this day the most common cancer in people living with HIV. This study aimed to obtain epidemiological data on Kaposi's sarcoma diagnosed at the cytopathological anatomy laboratory in the Republic of Congo.

Material and Methods: Authors collected all cases of Kaposi's Sarcoma over a 22 years period from 2000 to 2021. Data was collected from hospital registers, medical records and reports of pathological examination results.

Results: A total of 37 cases were enrolled in the study, with the annually incidence of Kaposi's sarcoma around 2 cases/year. The age of patients at diagnosis ranged from 13 to 80 years old, with the average age of 31.5 years. Male to female ratio was 3.1 and females were older than males. The majority of the lesions were in the lower limbs, 13 (35%) and nodular KS accounted the most observed elementary lesions of all cases (59%).

Conclusion: Although it occurs frequently in PLHIV, KS is less common in the Republic of Congo and remains an unrecognized condition among the Congolese population.

Keywords: Kaposi's sarcoma, Epidemiology, Republic of Congo

INTRODUCTION

Kaposi sarcoma (KS) is an inflammatory soft tissue tumor that typically presents as purple lesions of skin and mucosa, but it can also spread to lymph nodes and other organs. KS was first described in 1872 by the Hungarian dermatologist, Moritz Kaposi (1). It is caused by an infection with KS-associated herpesvirus (KSHV), also known as human herpesvirus 8 (HHV-8) (2). KS is

the most common cancer in people living with HIV and there are four clinical-epidemiological forms of KS: (i) The classic Mediterranean form described in 1872 by Kaposi in Vienna, Austria; malignant skin disease, rare, mainly affecting the elderly man. (ii) Endemic form was described in 1950 in Central and East Africa, around the Great Lakes, and affects young adult humans and children. (iii) The post-

transplant or iatrogenic form, described in 1970 in transplant patients treated with immunosuppressant and (iv) the epidemic form linked to AIDS, described in 1981, in people infected with HIV (3). Histological examination of the lesions allows the diagnosis of KS and reveals spindle cells, specific to KS. Conventional hematoxylin and eosin staining shows several features common to different epidemiological forms of KS with aspects depending on the nature of the clinical lesion as it progresses from patch to plaque and nodular phases. With advances in science, new techniques have emerged to confirm the diagnosis of Kaposi's sarcoma, including Perls staining and immunohistochemical study of endothelial markers such as CD31 and CD34 (3). However, in Sub-Saharan African (SSA) countries and particularly in the Republic of Congo, conventional histology is the most used for microscopic diagnosis. The number of KS cases per year has not ceased to oscillate since the 1980s, even after the introduction of antiretroviral treatment in the Republic of Congo in 2003. Thus, aim of this study was to identify cases of KS and to study its epidemiological and clinical aspects in the Republic of Congo.

MATERIALS & METHODS

We conducted a descriptive and transversal retrospective study on all cases of KS diagnosed between 2000 and 2021, 22 years, in the pathological anatomy and cytology department of the University Hospital Center of Brazzaville, Republic of Congo. The main equipment consisted of registers, clinical data sheets, double reports of histopathology and biopsies of archived patients. In the registers and clinical data sheets, we had noted socio-demographic

information, in particular gender, age, patient residence and patient monitoring department; clinical information such as the date of the diagnosis, information relating to the histopathological diagnosis of the lesion, its anatomical location and HIV serology when information was available. This information was noted on a data collection sheet. The standard coloring used was hematoxylin-eosin.

RESULT

The registers allowed us to identify 37 Formalin-Fixed, Paraffin-Embedded (FFPE) Tissues of fairly good quality with a male predominance in the patients (28 men versus 9 women). The average age was 31.5 years with extremes of 13 and 80 years. The most represented modal age group was 21 – 40 years (46%). Of all cases, 28 (76%) were males and 9 (24 %) females. More than half of the patients resided in the two major departmental cities of the Republic of Congo and the remaining third were divided between northern and southern departments. Clinical data reported that nodules (59%), ulcerations (24%) and macules (16%) were the most observed elementary lesions with main localizations in the lower limbs, multifocal and upper limbs, respectively 13 (35%), 10 (27%) and 5 (14%). Patients were mainly followed in the departments of Polyvalent surgery, dermatology and oncology respectively. Of these, 51% were HIV-positive, while the HIV status of 30% of patients was unknown (Table 1). Finally, the annual frequency of KS in our study period was estimated at around 2 cases/year; with peaks in the number of cases found in 2000 (4 cases, 11%) and in 2021 (6 cases, 16%) (Figure 1).

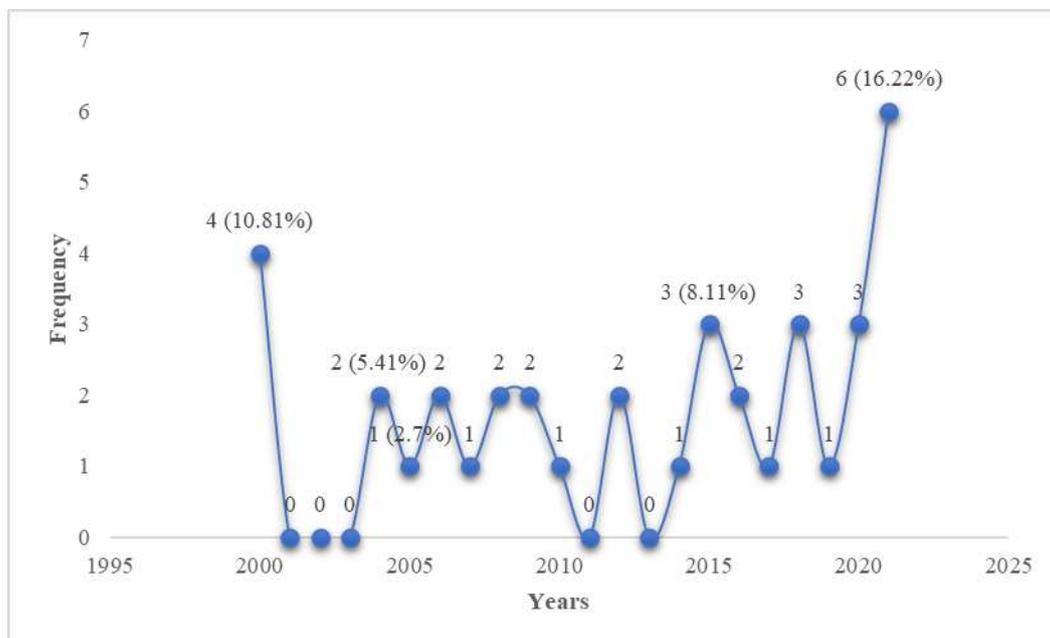
Table 1: Epidemiological and Clinical Data of Kaposi's Sarcoma Patients

Variable	Effectives	Percentages (%)
Gender		
Male	28	75.68
Female	9	24.32
Age		
≤ 20	2	5.40
21 - 40	17	45.95
41 - 60	10	27.03
61 - 80	8	21.62

Patient residence departments		
Brazzaville	17	45.95
Pointe-Noire	9	24.32
Northern Departments	4	10.81
Southern Departments	7	18.92
Basic lesion		
Nodule	22	59.46
Macule	6	16.22
Ulceration	9	24.32
Localization		
Head and neck	3	8.11
Oral cavity	3	8.11
Trunk	2	5.41
Upper limbs	5	13.51
Lower limbs	13	35.14
Penis	1	2.70
Mutifocal	10	27.02
HIV serology		
Positive	19	51.35
Negative	6	16.22
Not specified	12	32.43
Patient monitoring Department		
Dermatology	9	24.32
Infectiology	3	8.11
Polyvalent surgery	12	32.43
Oncology	6	16.22
Stomatology-ORL	5	13.51
Not specified	2	5.41
Total	37	100

Northern Departments include Likouala, Plateaux, sangha and cuvette ; Southern Departments include Kouilou, Lékoumou, Niari, Bouénza and Pool.

Figure I: Incidence of Kaposi's disease during 22 years (2000 -2021)



DISCUSSION

Frequency of KS in our study is around 2 cases/year. This result is similar to that obtained in other Sub-Saharan African countries such as Cameroon and Nigeria (3). In our study, KS was more prevalent in males than in females, with a male to female

ratio of 3.1, which is in agreement with what the literature reports. Male predominance has been observed in many other studies (3–5). Although some authors suggest that estrogen plays a protective role in explaining this male dominance, the most obvious disparities are related to race,

ethnicity and area of residence (3,4). The young population was predominant (average age of 31.5 years) with majority subjects in the 21-40 age range, as reported in other studies from sub-Saharan Africa (5,6) because it constitutes the most sexually active category (7) and the most affected by HIV in Republic of Congo (8). The most frequent clinical presentation was nodules followed by ulcerations. This find contradicts the literature on the evolution of KS. Other studies also reported nodules as the first elementary lesion in clinics of KS but not followed by ulcerations (3,7). Two reasons explain the high number of ulcerations: HIV immunosuppression of patients and the fact that KS remains unrecognized, pushing patients towards traditional medicine and coming to the hospital late, adding to that the difficulty of the cytopathological anatomy department in rendering the results on time. Cutaneous localization was the most frequent in our series, presenting most frequently as a nodule, especially in the lower limbs, but other localizations such as the oral cavity are also frequent; as observed in in other studies (3,7,9). It should be noted that more than half of our study population (51.35%) had HIV serology, presenting an epidemic KS. This supports the argument that the risk of developing Kaposi's sarcoma increases with HIV in all age groups (3,10).

CONCLUSION

This study shows that the prevalence of Kaposi's sarcoma reflects the prevalence of Human Herpesvirus 8 (HHV-8). With a prevalence of HHV-8 of 19% (8), KS ranks among the least common cancers in the Republic of Congo. A communication towards the general population, in particular among PLHIV remains necessary so that it is not considered as a mysterious illness resulting from a spell. Improving the management of this cancer also involves the molecular diagnosis of HHV-8 in particular and the increase in the number of anatomy and cytopathology laboratories in Congo, which only has one.

Declaration by Authors

Ethical Approval: Approved

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