

CUTANEOUS KAPOSI SARCOMA AND PLAIN CHEST RADIOGRAPHIC FINDINGS

¹NNORUKA E.N. MB BS, Msc Clin. Derm(Lon), FMCP,

²NJEZE N. MB B, FMCR

¹Sub-Department of Dermatology

²Department of Radiology

College of Medicine University of Nigeria

Correspondence: Edith N Nnoruka MD,

Sub-Dept. of Dermatology,

College of Medicine,

University of Nigeria Teaching Hospital, Enugu.

Tel (234) 042 452549 e-mail nkechi_nnoruka@yahoo.com

ABSTRACT

The advent of epidemic (AIDS related) Kaposi Sarcoma (KS) in our environment engendered this study that looks at the plain chest radiographic features of KS patients seen at a tropical tertiary referral centre.

Features observed ranged from clear lung fields to a variety of other chest manifestations in the hilum and lung parenchyma. However, findings observed may well manifest in other types of infections or neoplastic disorders.

ABSTRAIT

L'arrivée (SIDA relié) du sarcome épidémique de Kaposi (KS) dans notre environnement a engendré cette étude qui regarde les dispositifs radiographiques de coffre plat des patients de KS vus à un centre tertiaire tropical de référence. Les dispositifs ont observé étendu des gisements clairs de poumon à une variété d'autres manifestations de coffre dans le parenchyme de hilum et de poumon. Cependant, les résultats observés peuvent jaillir manifeste dans d'autres types des infections ou de désordres néoplastiques.

INTRODUCTION

The first cases of Kaposi Sarcoma were described by Moritz Kaposi in 1872. Kaposi Sarcoma (KS) presents the syndrome of lymphoedema, multiple

cutaneous tumors (which later ulcerate), lymphadenopathy and finally visceral involvement. Before the AIDS epidemic and successful solid organ transplant, KS was a rare tumor in the Western world. Incidence was about 0.02 to 0.06% per 100,000 people¹.

Classical KS as it is now called was found to be more common among elderly men from Eastern Europe (Jewish), Mediterranean countries or Equatorial Africa. In 1971 KS accounted for about 3 to 9%¹ of all reported malignancies in Uganda. The African form of KS is prevalent in males. There is a 500-fold increase in incidence in patients who have had renal transplant in Europe, among Jews or patients of African descent.

In the United States, 20-30% of cases of KS occur in HIV infected homosexual and bisexual men². In our environment the incidence of KS in HIV-infected patients treated at this centre is 3.3%³. This is in the same range as that reported by Ahmed et al⁴ from the northern part of Nigeria.

Intrathoracic involvement is seen in about one third of men with cutaneous KS, therefore KS should be strongly considered when these patients develop diffuse lung disease¹. The prevalence and endemicity of the human herpes virus 8

(HHV-8) in Africa may well be responsible for the apparent increase in number of patients with KS despite the fact that the men are mainly heterosexuals.

This study describes plain chest radiographic findings of patients with cutaneous Kaposi Sarcoma.

MATERIALS AND METHOD

All patients seen with KS at the dermatology clinic as well as referred cases of KS within the University of Nigeria Teaching Hospital, Enugu were recruited for this study. Demographic data also collected included age, sex and occupation of all patients were obtained after getting their informed consent. Investigations carried out included mantoux, sputum for AFB, haematological studies, western blot, CD4+ count and plain chest radiograph. KS was confirmed histologically- (biopsies showed proliferation of spindle cells extending through out the dermis and subcutaneous tissue with slit-like spaces filled with red blood cells).

Thus chest radiographs of all patients with cutaneous KS were studied over a period of five years, 1999 to 2004. The chest radiographs of patients with full blown AIDS alone (without cutaneous manifestations) were not included in this study group.

RESULT

A total of nine plain chest radiographs were reviewed. All were adults. The findings were studied and grouped into four major headings; the hilum, lung parenchyma, pleura and miscellaneous. The miscellaneous group included other radiographic findings which may not be related to KS.

Sex incidence was 5:4(male:female). Mean patient age was 47years (range:25-80yrs). Hilar Lymphadeno-pathy was seen in two cases (22%). Dense poorly defined shadows were visualized in three cases (33%). Perivascular haze was detected in two cases (22%) who had

congestive cardiac failure in addition. One patient (11%) had pleural effusion. Five patients' chest radiographs showed clear lung fields (56%).

DISCUSSION

Epidemic KS currently is on the increase with the AIDS pandemic and cutaneous lesions in these cases are known to appear atypically and at young age groups. Only slight male predominance 5:4 of KS is seen in this study unlike in that of Gruden, Naidich and Davis^{2,5,6} that had predominantly male patients in their series.

Pleural effusion was visualized in only one patient (11%) as against that discussed by Haramati and Wong² that showed a 41% presentation of pleural effusion. The lone pleural effusion may not be solely as a result of KS since the patient was also in cardiac failure. Lymphadenopathy had almost the same frequency of occurrence as in the study of Haramati and Wong. Lungs parenchymal densities were seen in 44% of the cases reviewed. This is relatively lower than in the study of Haramati and Wong² and also that of Davies et al⁷.

Because of the late presentation of the patients studied, the chest radiographic findings in the present study were mostly the stage 3 of Gruden et al⁵ staging. The staging of Gruden et al⁵ is as follows:

Stage 1- isolated peribronchial cuffing, stage 2- small nodules, stage 3- large nodules or areas of consolidation.

It is envisaged that since Kaposi Sarcoma is predominantly a male disease in the developed countries, an increased awareness of the occurrence of this disease in women may lead to an early diagnosis and treatment. The authors observed that the females as well as the males presented late. One known death was a female.

It is imagined that if this study had been a blind study, one may have made

radiologic diagnosis of pulmonary infection without definitely labelling it Kaposi Sarcoma.

The authors would want to alert all and sundry that Kaposi Sarcoma may not exactly be as far fetched as one imagines it to be.

Dermatologic manifestations of KS can be alarming but not really life threatening. There should be a high index of suspicion of

pulmonary KS once the cutaneous component is present because patients with intrathoracic KS have had a median survival of only a few months^{1,5,6,7}.

In conclusion, the presence of cutaneous KS should alert Radiologists to increase their index of suspicion as regards intrathoracic KS. In effect, any plain chest radiograph of patients with mucocutaneous symptoms should have KS as one of the differential diagnoses.

RESULT

SEX	AGE	HILUM	LUNG PARENCHYMA	PLEURA	MISCELLANEOUS	DIAGNOSIS
F	34yrs	—	Diffuse dense shadowing in the mid and lower lung zones on the right lung field. Left dome of diaphragm was indeterminate.	—	—	EKS
M	54yrs	—	Dense basal shadowing. Upper lobe diversion. Prominent and hazy pulmonary markings.	—	Aortic unfolding	CKS
F	46yrs	Bilateral lobulated hilar Shadows	Basal shadows are poorly defined and seen bilaterally.	—	—	EKS
M	80yrs	Bilateral lobulated hilar Shadows	Perivascular haze. Upper lobe diversion. Blunting of costophrenic angles. Right basal shadowing. Lungs fields clear.	—	Aorta+ Heart++ CCF +Basal pneumonitis	EKS
M	40yrs	—	Lungs fields clear.	—	—	EKS
F	5yrs	—	Lungs fields clear.	—	—	AKS
F	27yrs	—	Slight hazy shadowing at the bases	—	—	EKS
M	33yrs	—	Basal shadows	—	—	EKS
M	31yrs	—	Basal shadows poorly defined and seen bilaterally	—	—	EKS

EKS = Epidemic Kaposi's Sarcoma
CKS = Classic Kaposi's Sarcoma
AKS = Africa type Kaposi's Sarcoma

REFERENCES

1. Aboulafia DM. The Epidermic, Pathologic and Clinical features of AIDS- Associated Pulmonary Kaposi's Sarcoma. CHEST 2000; 117:1128-1145.
2. Haramati LB, Wong J. CHEST. 2000; 117: 410- 414
3. Nnoruka EN, Epidemic (Human immunology virus related) Kaposi Sarcoma in West African Women. Int J. Dermatol 2003;42:794-795.
4. Ahmed A, Isa MS, Garba HA et al. Influence of HIV infection on presentation of Kaposi's sarcoma. Trop. Doct 2001;31:42-45
5. Gruden JF, Huang L, Webb WR et al. AIDS- related Kaposi Sarcoma of the lung: radiographic findings and staging system with bronchoscopic correlation. Radiology. 1995; 195, 545-552
6. Naidich DP, Tarras M, Garay SM et al. Kaposi's Sarcoma ct-radiographic correlation. Chest. 1989; 96, 723-728
7. Davis SD, Henschke CI, Chamides BK et al. Intrathoracic Kaposi Sarcoma in patients with AIDS. Br J. Radiol. 1996;69,1104-1107