Background: Kaposi Sarcoma (KS) is the most common HIV-related malignancy. In the developed world, antiretroviral therapy (ART) appears to influence the clinical course of AIDS-related KS, although complete regression has been rarely reported. Little is known about the evolution of KS on ART in poor resource settings.

Methods: We conducted a retrospective study of patients with KS enrolled on ART in a primary care setting (Khayelitsha Township, South Africa) between May 2001 and January 2007. Site of lesion, grading, treatment, and outcomes on ART are described. Logistic regression was used to model determinants of mortality and disease progression on ART.

Results: Of 18,000 adults enrolled into HIV care in Khayelitsha during the study period, 214 (1.4%) had KS. A folder review was done for 188 (88%) of these patients. Median age at first line ART was 46 years, median baseline CD4+ count 76 cell/µl (26-171), and the majority (70%) were female. The most common site of lesions was oral (65%), and the lower extremities (38%). Forty-five (24%) patients were not treated and 78 (70%) were treated with ART alone. Of the 68 patients referred for further treatment, 55 (80%) received chemotherapy, 45 (67%) received radiotherapy, and 25 (37%) underwent surgery. Seven of 68 (10%) had documented treatment of KS as part of KS disease progression in Africa, and 10 (15%) had complete resolution of lesions, 43 (63%) had partial improvement, 8 (8%) had no change in lesions, and 26 (39) had progressive disease. Fifty-six (59%) patients had died, 13 (16%) were lost to follow-up, 9 (10%) were transferred out, and 62 (73%) were alive and in care at the end of the study. In multivariate analysis, stage T1 and S1 disease were associated with mortality (OR respectively 7.4 [95% CI 4.0-14.0] and 3.8 [95% CI 1.9-7.3]). Chemotherapy was associated with a decreased risk of death (OR 0.3 [95% CI 0.2-0.8], p=0.037). Chemotherapy was associated with a decreased risk of death (OR 0.7 [95% CI 0.5-1.0], p=0.06) and disease progression (OR 0.4 [95% CI 0.2-0.9], p=0.027). The prevalence of diagnosed KS among patients starting ART in Khayelitsha was low. However, the advent of HAART has led to a significant increase in the incidence of KS in our setting. This study was designed to describe the characteristics, management, outcomes, and determinants of mortality and disease progression of patients with KS on ART.

Deterioration of Mortality and Disease Progression of Kaposi Sarcoma in a Primary Care ART Programme in Khayelitsha, South Africa

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ABSTRACT

Background: Kaposi Sarcoma (KS) is the most common HIV-related malignancy and is associated with a boost in mortality in patients on antiretroviral therapy (ART) in Khayelitsha. Little is known about the evolution of KS on ART in poor resource settings.

Methods: We conducted a retrospective study of patients with KS enrolled on ART in a primary care setting (Khayelitsha Township, South Africa) between May 2001 and January 2007. Site of lesion, grading, treatment, and outcomes on ART are described. Logistic regression was used to model determinants of mortality and disease progression on ART.

Results: Of 18,000 adults enrolled into HIV care in Khayelitsha during the study period, 214 (1.4%) had KS. A folder review was done for 188 (88%) of these patients. Median age at first line ART was 46 years, median baseline CD4+ count 76 cell/µl (26-171), and the majority (70%) were female. The most common site of lesions was oral (65%), and the lower extremities (38%). Forty-five (24%) patients were not treated and 78 (70%) were treated with ART alone. Of the 68 patients referred for further treatment, 55 (80%) received chemotherapy, 45 (67%) received radiotherapy, and 25 (37%) underwent surgery. Seven of 68 (10%) had documented treatment of KS as part of KS disease progression in Africa, and 10 (15%) had complete resolution of lesions, 43 (63%) had partial improvement, 8 (8%) had no change in lesions, and 26 (39) had progressive disease. Fifty-six (59%) patients had died, 13 (16%) were lost to follow-up, 9 (10%) were transferred out, and 62 (73%) were alive and in care at the end of the study. In multivariate analysis, stage T1 and S1 disease were associated with mortality (OR respectively 7.4 [95% CI 4.0-14.0] and 3.8 [95% CI 1.9-7.3]). Chemotherapy was associated with a decreased risk of death (OR 0.3 [95% CI 0.2-0.8], p=0.037). Chemotherapy was associated with a decreased risk of death (OR 0.7 [95% CI 0.5-1.0], p=0.06) and disease progression (OR 0.4 [95% CI 0.2-0.9], p=0.027). The prevalence of diagnosed KS among patients starting ART in Khayelitsha was low. However, the advent of HAART has led to a significant increase in the incidence of KS in our setting. This study was designed to describe the characteristics, management, outcomes, and determinants of mortality and disease progression of patients with KS on ART.

Location of Lesions

- Disseminated Cutaneous Lesions 72 (38.3%)
- Oral 122 (64.9)
- Head 78 (41.5)
- Trunk 68 (36.2)
- Upper Extremity 63 (33.5)
- Lower Extremity 165 (88.2)
- Hypopharynx 42 (23.3)
- Lymphphadenopathy 42 (2.2)
- Genitalia 4 (2.1)
- Lung* 37 (20.7)

Types of Treatment of Kaposi Sarcoma

- No treatment 45 (23.9%)
- Antiretroviral Therapy Only 70 (37.2%)
- Chemotherapy 55 (29.3%)
- Bleomycin 28 (50.9%)
- Adriamycin 29 (52.7%)
- Vinblastine 28 (50.9%)
- Vindesine 26 (47.3%)
- Radiotherapy 45 (23.9%)
- Surgery 2 (1.1%)

- The majority had oral lesions
- Pulmonary KS was suspected in 20%.
- Head 41%
- Oral 65%
- Lower Extremity 56%

Conclusion: The prevalence of KS among patients starting ART in Khayelitsha was low. However, despite the advent of ART and other treatments for KS, mortality remained very high (60%) if losses to follow-up are counted as deaths. Loss to follow-up before and after starting treatment was high. The major risk factors for mortality and disease progression were advanced (T1 or S1) disease. Chemotherapy was associated with a 70% decrease in mortality. Of these, 88% (188/214) had one lesion. The major risk factors for mortality and disease progression were advanced (T1 or S1) disease. Chemotherapy was associated with a 70% (95% CI 10-89.2) decrease in mortality. Chemotherapy was associated with a 70% decrease in mortality.

Discussion and conclusions: The prevalence of diagnosed KS among patients starting ART in Khayelitsha was low. However, the high proportion of high risk disease (T1S1) could be explained by a combination of late presentation and under-diagnosis of low risk disease.

Despite the advent of ART and the availability of chemotherapeutic agents, mortality remained high.

Loss to follow-up before and after initiation of treatment was higher than in non-KS HIV-infected patients.

The major determinant for mortality and disease progression was advanced disease (stage T1 or S1), with symptomatic stages (stage S1) being associated with higher mortality and stage T1 with increased disease progression.

Addition of chemotherapy to ART was independently associated with a 70% decrease in mortality.

Improved studies on the effectiveness of accessible chemotherapy regimens and related side-effects in resource-limited settings are needed.

Efforts to improve early diagnosis and retention in care for patients with KS are also needed.