



# Diffuse gingival hypertrophied Kaposi sarcoma as an initial presentation of HIV Infection

Abinet Meno Abose<sup>a,\*</sup>, Tibebe Amare<sup>b</sup>, Mierafe Daniel<sup>a</sup>, Anteneh Gebeyehu<sup>a</sup>

<sup>a</sup> Department of Internal Medicine, School of Medicine, Dilla University, Dilla, Ethiopia

<sup>b</sup> Department of Pathology, School of Medicine, Wolayita Sodo University, Sodo, Ethiopia

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## ABSTRACT

Kaposi sarcoma is an indolent angio-proliferative spindle-cell tumor derived from endothelial and immune cells infected with Human herpes virus type 8 (HHV-8). In the era of highly active antiretroviral (HAART), Kaposi sarcoma is a rare form of initial presentation of HIV infection [1]. The author presents a case of diffuse gingival hypertrophied Kaposi sarcoma in 18-year-old male newly diagnosed RVI patient. After confirming the diagnosis patient started on HAART and mouth care. Surgical excision is the first line of treatment with HAART, since this patient has low CD4 count of 30 cells/mm<sup>3</sup> which will complicate the surgery. So, we are waiting for CD4 count to increase above 200 cells/mm<sup>3</sup> to undergo surgical excision. The case is representative of HIV complexity and aimed to bring awareness of unusual presentation of HIV. This case also reminds us how important early initiation of HAART is.

## Introduction

Kaposi sarcoma is an indolent angio-proliferative spindle-cell tumor derived from endothelial and immune cells infected with Human herpes virus type 8 (HHV-8). HHV-8 virus [1,2] was identified as the causative agent of KS and present in 95–98%. KS is categorized into the following 4 types Epidemic (AIDS-related), Iatrogenic (immunosuppressant therapy-related), Classic, or sporadic and Endemic (African).

KS accounts for 12% of cancers in people living with HIV; with 765 to 910 new cases per year in the US. KS is AIDS-defining cancer according to the WHO definition [2,3]. Notably, following the AIDS epidemic, the incidence of KS in Africa increased markedly. From 1968 to 1970, KS accounted for 6.6% of all cancers occurring in men; however, from 1989 to 1991, KS became the most commonly reported cancer in men. Cutaneous manifestation is the commonest one, but patients can present with pulmonary, CNS, GI and visceral manifestations [3,4]. All patients with Kaposi sarcoma should screen for HIV and HHV-8.

## Case presentation

An 18-year-old male patient presented to Dilla University General Hospital's medical outpatient department with a complaint of gingival swelling for three months duration which was small initially but over

time progressed to attain the current size. He has had significant unintentional weight loss over the past six months and associated low-grade intermittent fever. Otherwise, he has no history of chronic cough, diarrhea or constipation. He has no history of trauma to the mouth or any history of skin lesions.

## Physical examination

The patient is conscious and oriented and there is no visible skin rash. The pertinent finding is on the oral cavity, there is reddish blue diffuse gingival hypertrophied swelling with involvement of the whole maxillary gingiva, which is non-tender and there is no active bleeding (Fig. 1). There is no hepatosplenomegaly. (Figs. 2 and 3).

Soon after the diagnosis of KS, patient started on highly active antiretroviral therapy (HAART). Mouth care also started at the same time. The maxillo-facial surgeon evaluated the patient and suggested continuing with HAART treatment until the CD4 count increases, and then we will consider surgical excision. With this, currently, the patient is on HAART for the past three weeks and has weekly follow-up at our ART clinic.

\* Corresponding author.

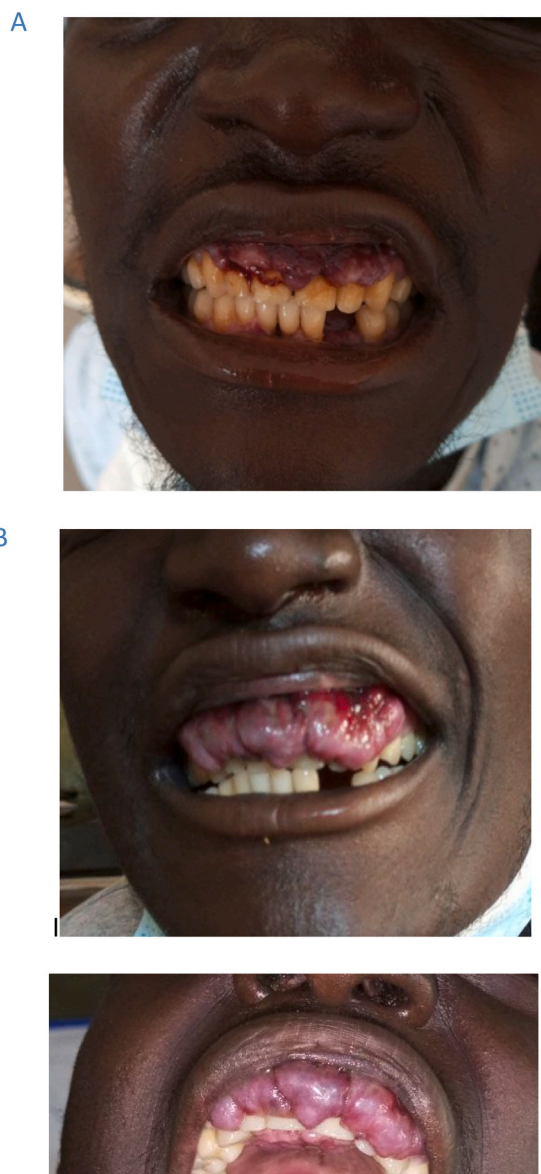
E-mail address: [meno28mom@gmail.com](mailto:meno28mom@gmail.com) (A.M. Abose).

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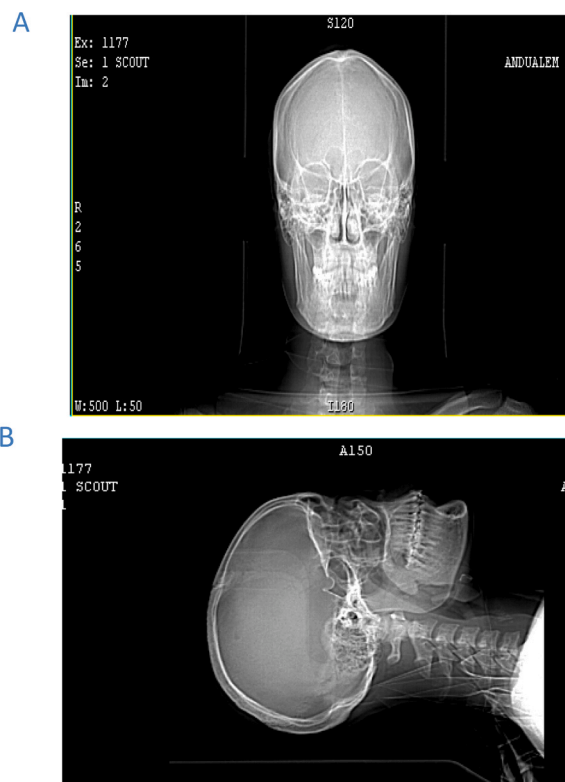
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**Fig. 1.** The Lab result showed: complete blood count, WBC = 8, 000, HGB= 12.4 gm/dl,Plt count = 200,000 cells/mm<sup>3</sup>, renal function test CR = 0.7 mg/dl, liver enzymes, AST = 40, ALT = 28, ALP= 23,Erythrocyte sedimentation rate = 44 mm/h=HIV1 serology (fourth-generation test) was positive, and the HIV viral load (VL) of 100,000 copies/mm<sup>3</sup> CD4 + T lymphocyte count of 30 cells/mm<sup>3</sup> Head and neck Ct scan There is diffuse maxillary gingival hypertrophy and nasal and oropharyngeal mucosal thickening. There is no associated erosion or sclerosis of underlying bone.

**Discussion**

The clinical presentation in our patient highlights the potential of Kaposi sarcoma presents as a diffuse localized aggressive course of the disease in people living with HIV (PLWH). Oral cavity Kaposi sarcoma commonly involves a soft palate followed by a hard palate and dorsum of the tongue, gingival involvement is the least common presentation of oral cavity Kaposi sarcoma [1,5]. The development of diffuse local aggressive Kaposi sarcoma represents an advanced disease of HIV infection [4,6]. Our patient visited different health facilities before he visited our hospital, so in patients with diffuse reddish blue gingival swelling Kaposi sarcoma should be considered as a differential diagnosis and has to be screened for HIV infection. The development of this aggressive local diffuse Kaposi occurred in this patient is due to



**Fig. 2.** Chest CT scan showed there is no Hilar infiltrate or lymphadenopathy. Abdomino pelvic ultrasound is normal. Biopsy was taken from maxillary gingival hypertrophic mass which is strongly suggestive of Kaposi sarcoma Fig. 3.

advanced immune deficiency which resulted from delayed diagnosis, so early diagnosis and initiation of HAART would have prevented this occurrence. The prognosis of AIDS-related sarcoma is poor unless the patient started on HAART. With HAART treatment the lesion in the majority of the case regress spontaneously. Surgical excision is also recommended in this patient but deferred from maxilo-facial surgical side for the reason of low CD4 count, 30 cells/mm<sup>3</sup>.

**Conclusion**

Our case highlights the progressive nature of HIV/AIDS-associated diffuse hypertrophied gingival Kaposi sarcoma in a patient not on HART treatment and early initiation of HAART is very important to prevent any form of Kaposi sarcoma. We have to screen for HIV infection for those patients who presented with reddish blue gingival hypertrophied swelling.

**Ethics approval**

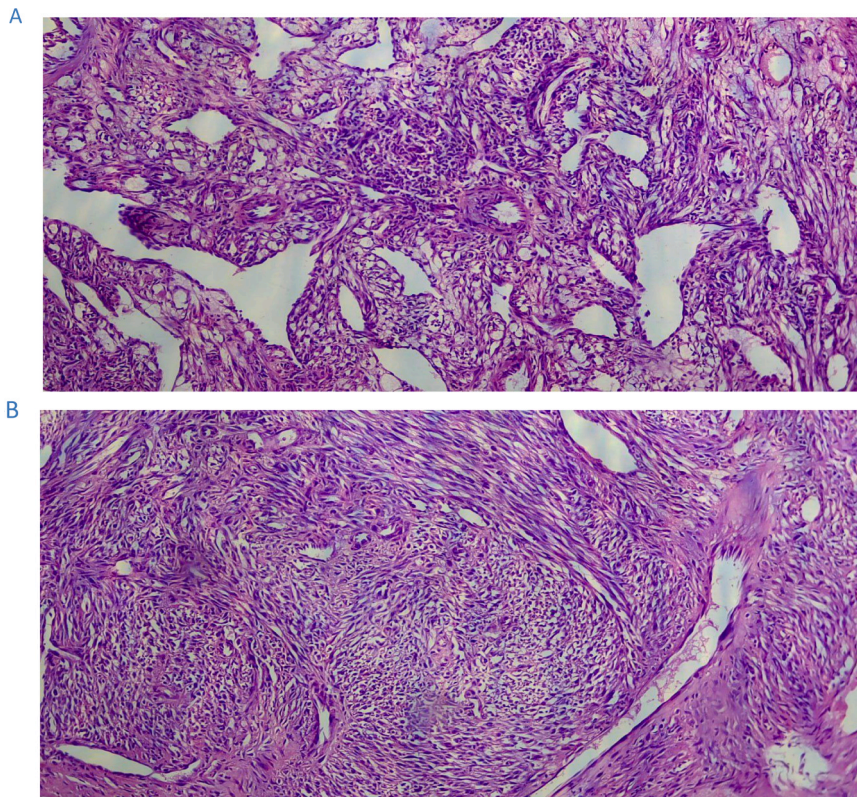
Ethical approval gained from Dilla University IRB.

**Human ethics**

Consent is guaranteed from all involved in this case report.

**CRedit authorship contribution statement**

**Anteneh Gebeyehu:** Data curation. **Abinet Meno Abose:** Conceptualization, Formal analysis. **Tibebu Amare:** Investigation.



**Fig. 3.** A. numerous dilated, jagged vascular channels Surrounded by plump spindle cells. B. Interlacing fascicles of monomorphic spindle cells around slit or sieve like spaces.

#### Declaration of Competing Interest

The authors has no conflict of interest with any one.

#### Acknowledgment

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#### References

- [1] Arul AS, Kumar AR, Verma S, Arul AS. Oral Kaposi's sarcoma: Sole presentation in HIV seropositive patient. *J Nat Sci Biol Med* 2015;6:459–61 ([PMC free article] [PubMed] [Google Scholar]).
- [2] Jacob K.Stern, Ilanit Stern, Scott S.De. Rossi, Saiprasad M.Zemse, Rafik Abdelsayed Kaposi sarcoma presenting as "diffuse gingival enlargement": Report of three cases, HIV & AIDS Review. *International Journal of HIV-Related Problems*[PubMed] [Google Scholar].

- [3] Nguyen HQ, Magaret AS, Kitahata MM, Van Rompaey SE, Wald A, Casper C. Persistent Kaposi sarcoma in the era of highly active antiretroviral therapy: characterizing the predictors of clinical response. *AIDS* 2008;22:937–45 ([PMC free article] [PubMed] [Google Scholar]).
- [4] Bernick S. Growths of the gingiva and palate; connective tissue tumors. *Oral Surg Oral Med Oral Pathol* 1948;1:1098–108 ([PubMed] [Google Scholar]).
- [5] Fowler CB. Benign and malignant neoplasms of the periodontium. *Periodontal* 2000; 21:33–83 ([PubMed] [Google Scholar]).
- [6] Shiboski C, Winkler J. Gingival Kaposi's sarcoma and periodontitis. A case report and suggested treatment approach to the combined lesions [PubMed] [Google Scholar].

#### Further reading

- [1] Kharkar V, Gutte RM, Khopkar U, Mahajan S, Chikhalkar S. Kaposi's sarcoma: a presenting manifestation of HIV infection in an Indian. *Indian J Dermatol Venereol Leprol* 2009;75:391–3 ([PubMed] [Google Scholar]).
- [2] Kfir Y, Buchner A, Hansen LS. Reactive lesions of the gingiva. A clinicopathological study of 741 cases. *J Periodo* 1980;51:655–61 ([PubMed] [Google Scholar]).