# Diagnosis of oral and cutaneous Kaposi's sarcoma in Africa: Challenges involving histology and molecular detection


## Author

Speicher, David, Wanzala, P, D'Lima, M, Dimba, E, Nijiru, A, Perera, Roshnal, Chindia, ML, Johnson, Newell



## Published

2011

## Conference Title

23rd Annual conference of the Australasian Society for HIV Medicine

# DIAGNOSIS OF ORAL AND CUTANEOUS KAPOSI'S SARCOMA IN AFRICA: CHALLENGES INVOLVING HISTOLOGY AND MOLECULAR DETECTION

Speicher DJ[1,2], Wanzala P[3], D'Lima M[3], Dimba E[4], Nijiru A[5], Perera R[6], Johnson NW[1,2]

[1] School of Dentistry and Oral Health, Griffith University, Queensland, Australia.
[2] Griffith Health Institute, Griffith University, Queensland, Australia
[3] Kenyan Medical Research Institute, Nairobi, Kenya
[4] School of Dental Science, University of Nairobi, Nairobi, Kenya
[5]Kenyatta National Hospital, Nairobi, Kenya
[6]Ministry of Health, Sri Lanka

**Corresponding Author:** Prof Newell W Johnson; n.johnson@griffith.edu.au

Introduction: Kaposi's sarcoma (KS), caused by HHV-8, is the most frequent HIV-associated malignancy worldwide and remains a major scourge in Sub-Saharan Africa. KS is endemic in Kenya (~5% of the total malignancies) but is often misdiagnosed based solely on H&E staining and clinical appearance. This study examined oral and non-oral KS biopsies from Kenya and attempted to resolve some misdiagnosed cases by using immunohistochemistry (IHC) and polymerase chain reaction (PCR) for HHV-8.

Methods: 49 KS biopsies (28 oral, 21 cutaneous) previously diagnosed as "KS" were examined by haematoxylin and eosin (H&E) staining and IHC targeting the HHV-8 LANA-1 protein (NCL-HHV8-LNA; Novacastra). Positive controls were sections from embedded BCBL-1 cell lines. Negative controls were from 3 different HHV-8-negative biopsies. Confirmation of HHV-8 IHC staining was sought by PCR targeting ORF73 and ORF26 and HHV-8 subtyping based on sequencing ORFK1.

Results: While most of the cases were correctly diagnosed, 11 oral and 4 cutaneous lesions displayed clinical and histological features of KS but were HHV-8 IHC negative. The differentiation of oral lesions between KS and pyogenic granuloma could only be determined via HHV-8 IHC. While PCR is usually helpful in differentiating HHV-8 disease, all samples were HHV-8 PCR positive of identical sequences, suggesting cross contamination of samples in the laboratory.

Conclusions: HHV-8 IHC is essential for the correct diagnosis of KS in Africa, but due to the high level of contamination PCR is inadvisable.