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

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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.