ABSTRACT

Background

Oral Squamous Cell Carcinoma (OSCC) is the most common malignant tumour of the mucosa of the oral cavity and one of the ten most common causes of death. OSCCs arise from the mucosa of the oral cavity and oropharynx. It affects mainly men between the fifth and sixth decades of life and is rare in young patients (40-year old).

Established aetiological factors include cigarette, pipe and cigar smoking, heavy alcohol abuse, betel nut chewing and smokeless tobacco use. Recently, HPV has been identified as an aetiological agent for a subset of OSCCs, specifically those that arise from the oropharynx, including base of tongue and tonsil.

Oncogenic HPVs have a well-established association with uterine cervical squamous cell carcinoma (SCC) with types 16, 18 and 33 detection in up to 96% of cases. However, little is known about the exact role of HPV infections in the development of OSCCs.

Knowledge of cancer patterns in Africa is woefully inadequate, and population-based epidemiological data on the occurrence of cancer in sub-Saharan Africa, especially, are sparse.

General Aim

This study was carried out to assess the prevalence of HPV DNA in histologically confirmed OSCCs seen at the Oral Pathology Laboratory of the School of Medicine and Dentistry for the period starting January 2006 to December 2013.

Methodology

This study was a retrospective cross-sectional study. Subjects consisted of all diagnosed OSCC cases seen at the Oral Pathology Laboratory of the School of Medicine and Dentistry from January 2006 to December 2013. Eighty-eight (88) formalin-fixed, paraffin-embedded oral tissue blocks, which have been stored from January 2006 to December 2013 were retrieved from the archives of the oral pathology laboratory. About 5μm-thick sections were cut and placed on silane-coated glass slides and clinical histologic examination of slides carried out by researcher who confirmed the diagnosis according to Broder’s classification system as well-differentiated, moderately-differentiated, and poorly-differentiated and Anneroth’s grading system as Grade I, II, and III. Multiplex Polymerase Chain Reaction (PCR) was carried out on the samples at the Molecular Biology Department, School of Biomedical and Allied Health Sciences.

Results

A total of 855 oral mucosal tissue biopsies including salivary gland conditions were received during the period January 2006 to December 2013. 201 of these were malignant lesions. Of the 201 malignant neoplasms seen over the period, 104 were diagnosed as OSCC giving a prevalence of 51.7%. OSCC was 12.16% of all oral mucosal tissues received. 88 of the 104 OSCC subjects qualified to be used for the research. They comprised 54 males and 34 females, giving a male to female ratio of 1.6:1. Patients were between the ages of 11-88 years, 45.5% were over 60 years. The most commonly affected site was the other and unspecified parts of the
mouth. Prevalence of HPV DNA was 3.4%. The HPV DNA genotypes detected were 16, 18 and 52.

Conclusion
Prevalence of HPV DNA was 3.4%.

Keywords
Oral Squamous Cell Carcinoma, Paraffin blocks, Polymerase Chain Reaction, Human Papilloma Virus.