ABSTRACT

**Background;** Head and Neck squamous cell carcinoma (HNSCC) is the seventh most common cause of cancer in the world. Recent reports from Uganda indicate that majority of patients have nodal metastasis at presentation and only about 50% of patients survive for more than 5 years following diagnosis. Cyclin dependent kinase inhibitor 2A (p16) and programmed cell death ligand 1 (PD-L1) have been shown as predictors of disease progression and prognostic indicators of survival. Also, expression of these molecules has been suggested to predict response to certain therapeutic agents. In this study, we determined the expression profile of PD-L1 and its association with p16 and histologic grades of HNSCC among archived specimens at tertiary hospital in Southwestern Uganda**.**

**Methods;** We retrospectively studied 165 formalin fixed paraffin embedded tissue blocks with previous histological diagnosis of Squamous Cell Carcinoma (SCC) from the Head and Neck region for a period of 10 years. We did repeat H&E to confirm the diagnosis. PDL-1 and p16 expression were determined using monoclonal antibodies (Anti-PD-L1 [EPR19759] ab213524 and p16INK4a JC2) from Abcam respectively.

**Results;** Majority of the cancers were well-differentiated 97(59%), followed by moderately differentiated 53(32%), and poorly differentiated 15(9%). PD-L1 and p16 were expressed positively in 32% and 16% of the cases respectively. A significant association was observed between PD-L1 and p16 expression while the expression of PD-L1 was not different among the different histologic grades of HNSCC.

**Conclusion;** Majority of the HNSCC in Southwestern Uganda are well-differentiated and have a high expression of PD-L1 implying that a significant number of the patients with HNSCC can benefit from immunotherapy. PD-L1 expression is significantly associated with p16 expression in HNSCC.