ABSTRACT

Introduction: Esophageal carcinoma is a common cancer - seventh in Uganda, and third most common in adults in western Uganda. The morbidity and mortality of this disease are high partly because of the relative ineffectiveness of conventional treatment methods such as chemotherapy. Targeted therapy is a relatively novel treatment option that is potentially more efficacious and less toxic. However, to initiate treatment, target biomarkers, PD-L1 and HER2, must be determined.

Objectives: We sought to determine PD-L1 and HER2 expression in archived samples from patients diagnosed with esophageal carcinoma. We also determined histologic grades of esophageal carcinoma and examined the association between PD-L1/HER2 expression and histologic grade.

Methods: We carried out a cross-sectional laboratory-based study utilizing archived esophageal samples of histologically confirmed esophageal carcinoma. We included 127 esophageal endoscopy samples collected over 5 years (January 2018 – December 2022). We examined the specimen by immunohistochemistry to establish PD-L1 and HER2 expression. Data was analyzed using STATA.

Results: Majority of the specimens examined (48.03%; 61/127) were moderately differentiated (grade 2) EC. The prevalence of PD-L1 and HER2 expression was 3.15% (4/127) and 3.94% (5/127) respectively. We found no significant association between PD-L1 or HER2 expression and histologic grade (p= 0.647 and p=0.224 respectively).

Conclusion: Moderately differentiated carcinoma (G2) was the most common histologic grade of EC, closely followed by poorly differentiated EC. The expression of PD-L1 and HER2 in EC samples is present but low compared to other studies, and there was no association between PD-L1/HER2 expression and histologic grade(s) of EC.