

ABSTRACT

Background: Gastric carcinoma remains one of the most common and deadly cancers worldwide, especially among older males. It is ranked fifth among the commonly occurring cancers after lung, breast, and colorectal, esophageal cancers and second after lung cancer in causing cancer-related deaths. In Sub-Saharan Africa and Uganda in particular, the diagnostic biomarkers of gastric carcinomas are not well documented and also limited studies have been conducted in Uganda regarding the prognostic and diagnostic value of p53 and p63 expression in gastric carcinomas.

Objective: We determined the expression of p53 and p63 proteins and their correlation with different histological grades among archived gastric carcinoma specimens at MRRH.

Methods: This was a laboratory-based cross-sectional study. We retrieved 166 archived formalin-fixed paraffin-embedded gastric carcinoma tissue specimens from Histopathology Laboratory. They were stained with Harris Hematoxylin and Eosin stain and subsequently performed IHC stain with P53 monoclonal antibody and P63 Monoclonal antibody.

Results: Of the 166 gastric carcinoma specimens retrieved, 101/166 (60.8) were from male, and the mean age was 59.7 years (SD: 15.3) majority of patients were above 40 years 149/166 (89.8%). Out of 166 gastric carcinoma specimens, almost a third of specimens were poorly differentiated 53/166 (32%) although majority was moderately differentiated 68/166 (41%). P53 expression in well differentiated gastric carcinoma was 20/45 (44.4%), in moderately was 27/68 (39.7) and in poorly was 21/53 (39.6). Expression of P63 protein in well differentiated gastric carcinoma specimen was 1/45 (2.2%), in moderately it was 10/68 (14.7%) and in poorly 4/53 (6.4%) Statistically significant positive correlation was observed between P63 and weak IHC expression (spearman rho 0.155, p value 0.047).

Conclusion

P53 expression was 78/166 (47%) while p63 expression in different histological grades was 15/166 (9%). There was no significant correlation of p53 with different histological grades but significant correlation was observed between P63 and moderately differentiated gastric carcinoma specimen. We recommend a prospective study using advanced molecular tests on fresh gastric carcinoma specimen to assess the prognostic usefulness of P53 and P63 biomarker.