

Abstract

Background: The determination of the presence or absence of anaplasia in Wilms tumor is subjective sometimes creating diagnostic errors. This is worsened by the use of neoadjuvant chemotherapy; which causes cellular alterations that may mimic anaplasia. This study, therefore, described the histological features of Wilms tumor and their correlation with WT1 and p53 expression in archived specimens in South Western Uganda. **Materials and methods:** A series of 85 formalin-fixed paraffin-embedded tissue blocks with viable tumor were retrospectively recruited in this study at Mbarara Regional Referral Histopathology laboratory. Rabbit monoclonal Anti-Wilms tumor protein antibody [(CAN-R9) IHC-56-2] ab89901 and rabbit monoclonal Anti-p53 antibody [E26] ab32389 were used to assess the expression of WT1 and p53 respectively. The expression of WT1 and p53 were reported as proportions, Chi-square was also performed to assess for associations and statistical significance was considered when the p-value was less than 0.05. **Results:** The median age was 3.5 (2-6) years. Mixed histology was the most common at 35.29% (95% CI:25.77-46.14). Anaplasia was present in 5.88% (95% CI:2.44-13.52) of the specimens. TP53 and WT1 expressions were 13.0% (95% CI:7.25-22.04), and 41.0% (95% CI: 31.11-52.04) respectively. **Conclusion:** Mixed-type histology is the most common histologic feature of Wilms tumor with high expression of WT1 and a low expression of p53 implying that these can be used routinely to confirm the diagnosis as well as anaplasia at Mbarara Regional Referral Hospital.