

Histochemical Localization of Hepatitis B Surface Antigen in Hepatocellular Carcinoma: An Evaluation of Two Staining Techniques in a Tertiary Hospital in Calabar, Nigeria

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Abstract : Hepatitis B virus (HBV) is one of the known human carcinogens. The presence of HBsAg in liver tissues indicates active viral replication. More than 85% of Hepatocellular Carcinoma (HCC) cases occur in countries with increased rates of chronic HBV infection. An evaluation study to determine the relationship between positivity for HBsAg and development of HCC and its distribution between age and gender of subjects was done. Shikata Orcein and Haematoxylin and Eosin (H&E) staining techniques were performed on liver sections. A total of 50 liver tissue specimens comprising 38 biopsy and 12 post-mortem specimens were processed. Thirty-five of the 50 specimens were positive for HBsAg with Orcein stain whereas only 16 were positive with H&E stain, and these were also positive with Orcein stain, giving an HBsAg prevalence of 70.0% (35/50). The prevalence of HCC in the study was 56.0% (28/50), of which 21 (75.0%) cases were positive for HBsAg, 18 (64.3%) were males while 10 (35.7%) were females distributed within the age range of 20-70 years. The highest number of HBsAg positive HCC cases, 7/21 (33.3%) occurred in the age group 40-49 years. There was no relationship in the pattern of distribution of HCC between age and gender using the Pearson correlation coefficient ($r = 0.0474$; $P < 0.05$). HBV infection predisposed to HCC. Orcein technique was more specific and is therefore recommended for screening of liver tissues where facilities for immunohistochemistry are inaccessible.

Keywords : Hepatitis B. surface antigen, hepatocellular carcinoma, orcein, pathology

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