

**Aflatoxin B₁ Induced Hepatocarcinogenicity In Wistar Female Rats : Morphological And
Proliferative Marker Study**

D. Basheer Ahamad*, A. K. Sharma, P. Dwivedi and B. Singh

Division of Pathology,
Indian Veterinary Research Institute,
Izatnagar, Bareilly-243 122. U.P State

Abstract

Aflatoxin B₁ is an environmental carcinogen and cause hepatoma and hepatocellular carcinoma which is secondary metabolites of *Aspergillus flavus* and *A. parasiticus*. The hepatocarcinogenesis with morphological markers and proliferative markers (PCNA) immunohistochemistry was investigated in female Wistar rats with continuous administration of 0.0, 200 and 400 ppb of purified AFB₁ in feed. Groups of control, 0.2 and 0.4 ppm of AFB₁ treated rats were investigated at 10 week intervals i.e. from 0 to 70 weeks. Relative liver weight showed a significant changes in both AFB₁ treatment than control. Gross and histopathological changes such as preneoplastic areas comprised of morphological changes in architecture of hepatic lobules includes primary hepatocyte deviation and diffuse hepatocellular dysplasia. Altered foci includes, basophilic cell foci, clear cell foci and mixed cell foci and hyperplastic foci were observed preceding a appearance of hepatocellular tumours. Proliferating cell nuclear antigen (PCNA) is a better marker for assessment of cellular proliferative activity Based on above observation, low level of AFB₁ induce a large number of preneoplastic and neoplastic lesions than high level of AFB₁.