

TOXICOPATHOLOGIC EFFECTS OF AFLATOXIN B₁
AND MALARIAL INFECTION IN RAT LIVER

BY



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Abstract

The prevalence of aflatoxins are common in man in malaria endemic region such as in Africa and Southeast Asia. The interaction between the mycotoxin and the parasite were studied in animal as followed: A. weanling male and female Buffalo rats were divided into 3 groups: Group 1, 10⁴ P.berghei-treated; Group 2, DMSO followed by 10⁴ P.berghei-treated; and Group 3, AFB₁ (2 mg/kg body weight) followed by 10⁴ P.berghei-treated. B. Adult male Buffalo rats were divided into 4 group: Group 1, untreated; Group 2 10⁶ P.berghei-treated; Group 3, AFB₁ (2 mg/kg body weight)-treated; and Group 4, AFB₁ (2 mg/kg body weight) followed 10⁶ P.berghei-treated.

When plasmodia were injected into 24 hr-AFB₁ treated animals. The different pattern of malarial disease

was observed in both weanling and adult animals. In weanling rats, instead of recovering as normally expected, they died in about three weeks after infection. The percents parasitemia were 60.4 ± 9.2 and $56.4.9\%$ while their mortality in male and female rats was 62.5 and 75% respectively. When AFB_1 was administered into male adult animal 24 hr before the plasmodium, similar results were noted but in lesser degree; i.e. the animal died on day 14 and 18 with 28.6% mortality and 24.0 ± 6.3 per 10^3 parasites instead of 12.6 ± 1.3 per 10^3 parasites. Of interest, it was that 6 adult animals in AFB_1 /Malaria group developed precancerous lesion of hepatocellular carcinoma on days 17, 23 and 29, while only 1 animal with AFB_1 alone did on day 29.