

**BIOCHEMICAL DISTURBANCES IN THE PALMYRAH INTOXICATED RAT LIVER****P. A. J. Perera, S. N. Arsecularatne, G. T. Hapugoda***and***L. V. Welilage***(Department of Biochemistry and Microbiology University of Peradeniya)*

The predominant histopathology in the palmyrah intoxicated rat is in the liver although the hepatocellular lesions, in contrast to the vascular abnormalities, are not co-extensive with the lethal effects. Biochemical liver lesions were therefore sought as possible explanations for the toxicity, using alkaline phosphatase and alanine transaminase as indicators of liver function.

On a diet of 100% palmyrah flour, serum levels of both enzymes commenced to decline within 2-3 days of feeding. They dropped to approximately 30% of prefeeding values after 6-9 days of feeding. The effect was found to be dose dependant. The intracellular (cytosol) levels were unaffected. Specific enzyme synthesis of tryptophan oxygenase under hydrocortisone or L-tryptophan induction was unaffected in the cytosol. L-Tryptophan reversed the reduction of serum alkaline phosphatase level more than that of serum alkaline transaminase. Purified neurotoxin did not produce biochemical lesions as seen in intoxication produced with palmyrah flour.

## **SECTION A**

These results suggest that biochemical lesions in the palmyrah intoxicated rat liver consisted of not of a depression of protein synthesis, but of a disturbance of membrane dependent transport of intracellular material to the serum.