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Toxicity studies of palmyrah (*Borassus flabellifer L.*) fruit pulp in ICR mice

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The objective of this study was to determine if palmyrah (*Borassus flabellifer L.*) fruit pulp (PFP) which is used in the preparation of many traditional food items, has any toxic effects. This was necessary as palmyrah flour prepared from the seed shoot has been reported to cause hepatotoxicity and neurotoxicity.

Short term toxicity studies with PFP were conducted by administration of 10% PFP incorporated pellet feed to the test group and the WHO standard rat and mice breeding feed to the control group of mice (n=6, age 6 weeks, weight 36 - 44 g) for a one week period. Long term toxicity studies were conducted by administration of 10% PFP incorporated feed to the test group and the WHO standard rat and mice breeding feed to the control group of mice, for 30 days. In both studies the effect of 10% PFP containing pellets on liver and kidney function and haematological parameters (haemoglobin concentration, packed cell volume, white blood cell count and red blood cell count) were determined. Liver function was assessed by estimation of serum levels of alanine transaminase, aspartate transaminase and alkaline phosphatase. Renal toxicity was assessed by estimation of serum creatinine levels. In the long term toxicity study, effect of PFP on histology of main body organs (heart, lung liver, kidney and intestine) were also assessed by microscopic examination of haematoxylin /eosin stained sections of these organs. Results of both the short term and long term toxicity studies demonstrated that PFP at the 10% level did not have any significant effect ($p>0.05$) on kidney or liver function nor the haematological parameters under study and the histology of major body organs in ICR mice.

In both the short and long term studies, neurotoxicity was assessed by comparing the behaviour of the test group of mice with the control group. No behavioural changes and spasms were observed in the test groups of mice fed with the 10% PFP containing feed.

The overall results suggest that PFP at 10% level or even at 50% level do not produce any significant toxic effects in ICR mice.

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