

Volume 6, No. 1 (Supplement)

June 2011

ISSN 1823-2140

The
National University
with an
INTERNATIONAL REACH



UNIVERSITI
KEBANGSAAN
MALAYSIA
National University of Malaysia

MEDICINE & Health

The Official Journal of The Faculty of Medicine UKM

7th Malaysia Indonesia Brunei Medical Sciences Conference "TOWARDS A HOLISTIC AND INTEGRATIVE APPROACH IN HEALTHCARE"



22nd - 24th July 2011

Equatorial Hotel, Bangi, Selangor,
MALAYSIA

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EFFECT OF *PIPER SARMENTOSUM* ON PARACETAMOL-INDUCED OXIDATIVE INJURY IN RATS LIVER

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Background:

Piper sarmentosum or locally known as kaduk had been proven to contain naringenin, a potent natural antioxidant. Although it is widely used in traditional medicine, its efficacy has not been widely studied. In this study, paracetamol-induced hepatotoxicity model was utilized to evaluate the effect of *piper sarmentosum* on oxidative injuries.

Materials and Methods:

Twenty-three male Wistar rats weighing between 200-250g were randomly divided into three equal sized groups. The control and paracetamol groups received normal rat diet and sham treated with olive oil. The kaduk group received the same diet with addition of 500mg/kg methanolic kaduk extract via oral gavage for 28 days. At the end of the treatment period the control group was administered one millilitre per 100g normal saline while the paracetamol and kaduk groups were administered one gram per kilogram paracetamol via intraperitoneum injection. After 24 hours, blood was collected, the rats were sacrificed and liver tissue was collected for analysis.

Results:

There was a significant increased in aminotransferase enzymes in the blood, malondialdehyde, protein carbonyl and superoxide dismutase activity in the liver after insult with paracetamol compared to the control group. Kaduk extract was able to significantly decrease the malondialdehyde and protein carbonyl levels and there was also an increased in the superoxide dismutase activity. However, there were insignificant changes to the aminotransferase enzymes level in the blood with treatment with kaduk.

Conclusion:

The methanolic extract of *piper sarmentosum* at the dose of 500 mg/kg showed some level of protection to the liver against lipid peroxidation and protein oxidation by increasing the antioxidant enzymes activity. However the protection was not complete as shown by the inability to overcome the elevation of aminotransferase enzymes in the blood.

Keywords:

Piper sarmentosum, paracetamol, hepatotoxicity, oxidative stress