

ABSTRACT

STUDY OF THE ANTAGONISTIC EFFECT OF SLAED PANG PORN (CLINACANTHUS MUTANS) AGAINST THAILAND COBRA VENOM (NAJA NAJA SIAMENSIS)

by

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The antagonistic effect of Slaed Pang Porn against cobra venom was investigated in mice and rats. Typical neurotoxic signs included salivation, flaccid paralysis, loss of righting reflex, etc were observed in mice following intravenous injection of cobra venom and the major cause of death was respiratory paralysis. The LD16, LD50 and LD84 of cobra venom were 0.13, 0.22 and 0.38 mg/Kg body weight, respectively. Alcoholic Slaed Pang Porn extract (2,000 mg/Kg body weight) administered intravenously following cobra venom significantly reduced the lethal effect of LD50, but this amount of the extract did not change the number of dead mice from LD84 of the venom. In addition, either fresh mixture of alcoholic or aqueous Slaed Pang Porn extract (2,000 mg/Kg body weight) and cobra venom (0.38 mg/Kg body weight) for 10 minutes before subcutaneous injection also caused statistically significant reduction of fatality rate of mice.

CNS depressing effects due to LD16 of cobra venom or ethanol could be neutralized by alcoholic and aqueous Slaed Pang Porn extract in the amount of 2,000 mg/Kg body weight as shown by studying of motor activity.

It was found in the study using gastrocnemius-sciatic nerve preparations of pentobarbitalized rats that alcoholic Slaed Pang Porn extract (2,000 mg/Kg body weight) seemed to be possessed partial antagonistic effect against neuromuscular blocking action of cobra venom (0.38 mg/Kg body weight) only when administration prior to or freshly mixing with cobra venom. In addition, alcoholic Slaed Pang Porn extract did not change the blockade of neuromuscular transmission ($p > 0.10$) when using the phrenic nerve-hemidiaphragm preparations.

The mechanism of partial antagonistic effect of Slaed Pang Porn against cobra venom might be partly chemical antagonism by an unknown active substance containing in alcoholic Slaed Pang Porn extract.