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FACTORS ASSOCIATED WITH SEVERITY OF ORGANOPHOSPHORUS AND CARBAMATE POISONING

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Background: Both organophosphorus (OP) and carbamate (CB) are classified as anticholinesterase insecticides and are the common poisoning in Thailand. Severity of anticholinesterase insecticide poisoning varies. Clinical parameter which is associated with and able to predict the outcome of the poisoning has not been established.

Objective: To determine an association between the final outcome of anticholinesterase insecticide poisoning with type of insecticides and clinical parameters such as initial symptoms, signs and laboratory tests.

Method: This was a prospective cohort study from December 2010-May 2011. All anticholinesterase insecticide poisoning cases which were consulted to Ramathibodi Poison Center were included. Logistic regression analysis was used to identify the association between final outcome and these parameters. ***Results:*** A total of 437 anticholinesterase insecticide poisoning patients were included. There were 264 (60.83%) male and 170 (39.17%) female. Mean age was 31.38+17.5 years (ranging from 1-90 years). There were 137 (31.35%) patients who exposed to OP and 297 (67.96%) patients exposed to CB. Two patients exposed to both insecticides at the same episode. Only one exposed to unidentified anticholinesterase insecticide. The overall fatality rate was 9.04% (40 cases). Clinical parameters associated with fatality included abnormality of body temperature (OR 4.57, 95%CI 1.52-13.72), respiratory rate (OR 4.14, 95%CI 1.14-15.04), heart rate (OR 7.28, 95%CI 1.49-35.51), and alteration of consciousness defined by Glasgow Coma Scale (GCS) less than 9 (OR 24.73, 95%CI 5.35-114.42). A "Basic clinical score (BCS)" was created by using these four parameters. It yields 96.00% sensitivity and 77.68% specificity for determining fatality. It is comparable with Poison Severity Score, APACHEII score, a modified APACHE II system and GCS in predicting fatality, respiratory failure and prolong hospitalisation.

Conclusion: Abnormal vital signs and impaired consciousness are associated with fatality. High score of this BSC is associated with fatality. Though BSC is practical, further evaluation is needed