

Poster Abstracts

PO-83

COST EFFECTIVENESS ANALYSIS OF PARACETAMOL CONCENTRATION TEST IN PARACETAMOL OVERDOSE MANAGEMENT IN RAMATHIBODI HOSPITAL

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Objectives: Serum paracetamol concentration test is not available in some hospitals in Thailand, they use the amount of ingestion by history (more than 150 mg/kg) instead. Primary objective of this study is to evaluate cost effectiveness of using paracetamol concentration to determine n-acetylcysteine (NAC) therapy. Secondary objective is to evaluate sensitivity and specificity of using the history of ingested paracetamol dose per body weight as indication for NAC therapy.

Methods: This is a retrospective review of acute paracetamol overdose adult patients (age more than or equal to 16 years) presented at Ramathibodi Hospital during January 2007- March 2015. The paracetamol overdose cases were identified using ICD-10. Cases with repeated doses ingestion, delay presentation after 24 hours were excluded. Amount of ingested paracetamol per body weight (mg/kg) by history, serum paracetamol concentration, treatment, and medical outcome were recorded. Cases ingested more than or equal to 150 mg/kg were defined as "NAC indicated case by history". Cases with serum paracetamol concentration above or on the 150 line of the normogram were defined as "NAC indicated case by serum concentration". Sensitivity, specificity, and cost effectiveness of using ingested paracetamol amount per body weight as NAC indication were determined; using NAC indication by serum paracetamol as gold standard.

Results: Total 41 cases were reviewed; none developed liver failure, 6 cases had severe liver injury, 9 cases had mild liver injury. NAC was indicated by history in 40 cases. NAC was indicated by serum concentration in 26 cases. There was no case with NAC indicated by serum concentration but not indicated by history. There were 14 cases with NAC were not indicated by serum concentration but indicated by history.

Sensitivity of using ingested paracetamol amount per body weight as NAC indication was 100%, specificity was 6.67%, with positive predictive value of 65%, and negative predictive value of 100%. Ingested amount by history and paracetamol concentration were not correlated ($p = 0.831$, by Fisher's exact test).

In the setting of government hospitals, using serum paracetamol concentration as NAC indication can save cost of management by 853.80 Baht/person (24.4 USD/person).

Conclusion: Using history of ingested paracetamol amount more than or equal to 150 mg/kg as NAC indication is highly sensitive, but it is not cost effective as using paracetamol concentration above or on the 150 line of the normogram. Paracetamol concentration test is cost effective for determining NAC administration in acute paracetamol overdose cases.