

Characteristics and Outcomes of Acetaminophen Overdose and Hepatotoxicity in Thailand

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Background/Aims : Acetaminophen (APAP) is the leading cause of drug overdose and hepatotoxicity worldwide including in Thailand. Patterns of overdose and hospital management are known to have significant impact on the outcome of APAP overdose and these factors vary between countries. Therefore, this study was aimed to analyze clinical characteristics and outcomes of Thai patients with APAP overdose.

Method : In this retrospective analytic study, medical records of adult patients hospitalized with a diagnosis of APAP overdose at Rajavithi Hospital, Bangkok, over a five-year period from January 2013 to December 2017 were reviewed.

Results : A total of 191 patients diagnosed with APAP overdose were included. The median age was 22 (15-76) years and 79.6% were female. Most overdoses were intended self-poisoning ingestion (90.6%) with the median dose of 10 grams (2-50). A total of 121 patients were treated with N-acetylcysteine (NAC) with the median visit-to-NAC time of 2 (0.5-15) hours. Overall, 15.5% developed mild hepatotoxicity (AST or ALT >3xULN), 6.1% developed severe hepatotoxicity (AST or ALT >10 xULN and INR >2.0) and 3 patients developed acute liver failure (1 spontaneously resolved and 2 deaths without liver transplant). Significant predictors for hepatotoxicity included older age, chronic alcohol drinking, repeated taking medication for more than 8 hours (stagger ingestion), long duration between ingestion and hospital visit, alcohol coingestion, abdominal pain symptoms and acute kidney injury.

Conclusion: Most cases of APAP overdose in Thailand appeared to be young women with intentional ingestion. With prompt management, most patients (72.3%) did not develop significant hepatotoxicity. However, despite N-acetylcysteine therapy, hepatotoxicity, including acute liver failure, was observed in a small proportion of patients, particularly those with unintentional overdose and chronic alcohol drinking.

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