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ORIGINAL REPORT

Association between gastrointestinal manifestations following acetaminophen poisoning and outcome in 291 acetaminophen poisoning patients

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SUMMARY

Background Acetaminophen poisoning is a common clinical problem, and early identification of patients with more severe poisoning is key to improving outcomes.

Purposes This study intends to document prevalence, clinical characteristics, and predictors of gastrointestinal (GI) manifestations and to assess the impact of these manifestations on outcome in patients with acetaminophen poisoning.

Methods This is a retrospective cohort study of hospital admissions for acute acetaminophen poisoning conducted over a period of 5 years from 1 January 2004 to 31 December 2008. Parametric and non-parametric tests were used to test differences between groups depending on the normality of the data. Statistical Package for Social Sciences (SPSS) 15 was used for data analysis.

Results Two hundred and ninety-one patients were studied; their mean age was 23.01 ± 7.4 years and 76.6% had GI manifestations. Multiple logistic regression showed that significant risk factors for GI manifestations were present among patients who reported acetaminophen dose ingested ≥ 10 g ($p < 0.001$), and latency time more than 8 hours ($p = 0.030$). GI manifestations at first admission predicted poorer outcomes in terms of estimated acetaminophen levels to be a possible toxic ($p < 0.001$), elevated bilirubin levels ($p = 0.002$), prolonged prothrombin time (PT; $p = 0.002$), elevated creatinine level ($p = 0.028$), declination of potassium level ($p < 0.001$), and prolonged hospital stay ($p < 0.001$).

Conclusions GI manifestations were common among patients with acetaminophen poisoning. This study suggests that the presence of GI manifestations at first presentation appears to be an important risk marker of subsequent hepatotoxicity and nephrotoxicity. Copyright © 2010 John Wiley & Sons, Ltd.

KEY WORDS — acetaminophen; gastrointestinal manifestations; poisoning; outcome

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INTRODUCTION

The clinical course of poisoned patients is complicated frequently by gastrointestinal (GI) manifestations such as nausea and vomiting. Under normal circumstances, as toxicity resolves, these symptoms improve gradually. GI manifestations associated with certain poisons can be detrimental to the treatment of the patient. Although GI manifestations are observed among patients with acetaminophen poisoning,[1] there are no data concerning the prevalence of, and the relationship between, GI manifestations and outcome in patients presenting to the hospital with acetaminophen poisoning. To our knowledge, only one attempt has been made to identify GI manifestations as risk markers for hepatotoxicity in acetaminophen poisoning.[2] In that brief report, Knell listed clinical markers (rapid liver enlargement, abdominal pain, persistent nausea, jaundice) to be associated with hepatic encephalopathy. However, no data were provided to support these risk markers.

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