

ORIGINAL
ARTICLEN-acetylcysteine-induced headache in
hospitalized patients with acute
acetaminophen overdoseSa'ed H. Zyoudd^{a,b*}, Rahmat Awang^a, Syed Azhar Syed Sulaiman^c,
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accepted 31 March 2010*Correspondence and reprints:
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saedzyoud@najah.edu**ABSTRACT**

Intravenous N-acetylcysteine (IV-NAC) is usually regarded as a safe antidote to acetaminophen overdose. However, during infusion of the loading dose, adverse drug reactions such as a headache may occur. The objectives of this study were to investigate the prevalence of headache in patients presenting to hospital after acetaminophen overdose and to determine which clinical findings are most predictive of headache among these patients. This is a retrospective cohort study of hospital admissions for acute acetaminophen overdose that was conducted over a period of 4 years from January 1, 2005 to December 31, 2008. Demographic data, clinical characteristics, and predictors of headache were analyzed. SPSS 15 was used for data analysis. Two-hundred and fifty-five patients were studied; their mean age was 23.1 ± 1.6 ; 83.9% of them were women and 14.9% had a headache during hospitalization. Headache among patients was significantly associated with IV-NAC administration ($P = 0.001$), intentional ingestion of drug ($P = 0.04$), acetaminophen concentration above 'possible toxicity' treatment line ($P = 0.04$), a high acetaminophen concentration ($P = 0.04$), and a long hospital stay ($P = 0.03$). Multiple logistic regression showed a significant risk factor for headache in patients administered IV-NAC ($P = 0.04$). We recorded a high frequency of headache in patients with acute acetaminophen overdose in our geographical area. This study suggests that among those patients, the use of IV-NAC is associated with an increased risk of headache.

INTRODUCTION

The analgesic and antipyretic agent acetaminophen (paracetamol) is probably the most widely used drug in the world [1]. It is also one of the most common agents deliberately ingested in self-poisoning and a leading cause of liver and renal failure worldwide [2,3]. It remains the most common means of pharmaceutical poisoning in the Eastern world including Malaysia [4,5]. Management of poisoned patients includes using activated charcoal within the first hour after ingestion and administration

of the antidote N-acetylcysteine (NAC), which provides almost complete protection against liver necrosis and reduces complications if given within the first hours of acetaminophen ingestion [6–8].

Over the past 30 years, a variety of adverse reactions to NAC have been reported, ranging in severity from nausea to death. The more severe reactions have similar features to anaphylaxis, but extensive clinical experience indicates that these are in fact non-immunological and hence classified as anaphylactoid [9]. Case reports also describe other rarer features such as a serum sickness-like illness,