



Editorial on Acute Chronic Acetaminophen Toxicity causing Liver and Kidney Failure

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INTRODUCTION: Chronic acetaminophen toxicity is an unrecognized but an avoidable condition that has not been described properly. It therefore requires extra attention during history taking as more patients consume acetaminophen over the counter at their discretion. The maximum allowed adult dose of acetaminophen is 4 g per day. Although hepatotoxicity is a more common manifestation in acute acetaminophen poisoning but nephrotoxicity has also been described in approximately 2-10% of the cases. The occurrence of both nephrotoxicity and hepatotoxicity occurring together is rare. This abstract focuses on building awareness about chronic acetaminophen toxicity causing both hepatotoxicity and nephrotoxicity.

CASE: A 70-year-old Caucasian female with a history of hypertension and depression presented to a local Emergency Department (ED) feeling unwell. She had fever, fatigue, and diarrhea. Her past medical history was significant for chronic shoulder pain, for which she used up to 6 gms of acetaminophen a day for approximately 9 months. She tested positive for COVID-19 in the ED, and her other pertinent initial investigation revealed a serum sodium concentration of 129mEq/L, a serum bicarbonate of 17 mEq/L, Alanine Aminotransferase(ALT) 2560 U/L, Aspartate Aminotransferase(AST) 1178 U/L, Blood Urea Nitrogen(BUN) of 60 mg/dL, and a serum creatinine of 5.8 mg/dL.

Acetaminophen levels were drawn, and the poison control was contacted. She was infused a total of 10,200 mg of N-acetylcysteine intravenously at their recommendation for acetaminophen overdose. On day three, her acetaminophen levels were undetectable. The patient had received supportive treatment including two sessions of hemodialysis. On day four, the patient had a serum sodium of 138 mEq/L, AST of 80 U/L, ALT of 699 U/L, BUN of 42 mg/dL, and creatinine of 2 mg/dL with significant improvement in her urine output, thereby not requiring any further hemodialysis until the day of discharge.

CONCLUSION: Acetaminophen is one of the most commonly used over the counter medications and understanding its toxic potential is important. Acute acetaminophen overdose is well recognized while chronic toxicity is not well described. We like to stress the importance of over the counter medications in history taking. Specifically the dose and duration of acetaminophen ingestion should be included in history to avoid chronic acetaminophen poisoning preventing hepatotoxicity and/or nephrotoxicity. Our patient's condition was reversible with significant renal recovery, although in cases presenting late, there can be a risk of permanent renal damage. Our case illustrates the importance of a detailed history regarding acetaminophen ingestion and awareness about its chronic toxicity.

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