We report a case of hepatotoxicity associated with therapeutic doses of IV acetaminophen, with elevated serum APAP-CYS” Seifert et al (2016).

Abstract:

BACKGROUND: IV acetaminophen at 4 g per day is considered safe, producing no hepatic failure in more than 1400 cases. Oxidation of acetaminophen forms a reactive intermediate that binds to cellular proteins resulting in acetaminophen-protein adducts (APAP-CYS). Serum concentrations of APAP-CYS have been found to correlate with acetaminophen-induced hepatotoxicity. We report a case of hepatotoxicity associated with therapeutic doses of IV acetaminophen, with elevated serum APAP-CYS.

CASE DETAILS: The patient was a 92-year-old, 68 kg woman without known hepatic disease or ethanol abuse. On hospital day 3 she underwent laparoscopic reduction of internal hernias under general anesthesia. Surgery was uncomplicated and postoperatively she was treated with subcutaneous heparin and IV acetaminophen, 1 g every 6 h for almost 4 days (total dose = 13 g). At the start of therapy, transaminases were normal. On hospital day 5, she was noted to have marked transaminase elevations (AST: 4698 IU/L; ALT: 3914 IU/L) with increases in INR (1.68), ammonia (60 mcg/dL), and total bilirubin (1.8 mg/dL). Serum acetaminophen concentration was 15.3 mcg/mL 26 h after her last dose. Acetaminophen was discontinued and IV acetylcysteine was given and continued at the second maintenance dose rate for a second 16-hour infusion, at which time transaminases, INR, ammonia and total bilirubin were all improving. The patient was discharged 2 days later. Serum APAP-CYS concentrations in serum samples obtained during her hospitalization were elevated (peak = 4.81 μM on hospital day 5; expected range for therapeutic dosing

CONCLUSION: This case illustrates a potential hazard of IV acetaminophen and demonstrates the potential utility of APAP-CYS adducts in evaluating causality in acute liver injury.
Hepatotoxicity associated with therapeutic doses of intravenous acetaminophen | 2

Reference:


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