P-05
Acetaminophen-induced methemoglobinemia and hemolytic anemia: A case series

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Objective: To report cases of acetaminophen toxicity induced methemoglobinemia and hemolytic anemia in G6PD deficiency patients.

Case report: Drug induced methemoglobinemia is common, especially from dapsone, local anesthetic agents and nitrate compounds. Acetaminophen (paracetamol)-induced methemoglobinemia in dogs and cats has been well documented. However, this condition is rare in humans, with only a few cases reported in the literature. The first report was published in British Medical Journal in 1968, after that only 4 cases reported this rare condition. We present 3 cases, 2 suicidal attempts and 1 therapeutic misadventure, of acetaminophen-induced methemoglobinemia and hemolytic anemia. Case 1 (fatal case), male patient intentionally ingested 50 tablets of 500 mg-immediate release acetaminophen (312.5 mg/kg). Acetaminophen level was 18.2 ug/mL (46 hr. post ingestion), highest hepatic enzymes (AST/ALT) were 15000/3400, respectively, highest methemoglobin (MetHb) level was 17% (5 days post ingestion), and lowest Hct was 23%, SpO_2 88%. Case 2, female patient intentionally ingested 50 tablets of 500 mg-immediate release acetaminophen (396.8 mg/kg), acetaminophen level < 0.6 ug/mL (6 days post ingestion), highest AST/ALT = 4820/4050, highest MetHb level was 5.8% (6 days post ingestion), lowest Hct was 22% and SpO_2 83%. Case 3, male habitual drinker ingested therapeutic dose of acetaminophen (3 gm/day) for 3 days, acetaminophen level < 2.5 ug/mL (8 days post ingestion) and highest MetHb level was 3.1% (5 days post ingestion), this case had acute hepatitis A infection. The last 2 cases fully recovered. All 3 cases had G6PD deficiency and were treated with intravenous N-acetylcysteine (NAC) regimen with blood transfusion. No methylene blue was given in all cases.

Conclusion: Methemoglobinemia and hemolytic anemia associated with G6PD deficiency following acetaminophen toxicity have been described in this report. Although acetaminophen-induced methemoglobinemia and hemolytic anemia are rare, clinicians should recognize this condition especially in G6PD deficiency patient. Treatment with intravenous NAC and adequate blood transfusion were essential.