[ID-P#25] Adult lead ingestion still a concern

Alexander Jasensky, Thomas Maciulewicz and Mazda Shirazi
Arizona Poison and Drug Information Center

Background: After ingesting lead shotgun pellets, a 39-year-old male presented to the emergency department with a blood lead concentration of 78 mcg/dL. Despite being asymptomatic and stable, radiographs showed pellets primarily in the cecum and other parts of the colon. Whole bowel irrigation was advised by toxicology consultants, resulting in slow pellet passage and appendix accumulation. The patient was discharged with declining blood lead concentrations and outpatient monitoring continued. Although most of the pellets passed through the bowel, blood lead concentrations remained above 40 mcg/dL. Oral N-acetylcysteine (NAC) was initiated but failed to lower lead levels. Chelation with succimer decreased levels to 23.5 mcg/dL, with minor fatigue reported before treatment. Tragically, the patient died 180 days later from a self-inflicted gunshot wound.

Method: Management of lead toxicity in adults involves removing ingested lead and administering chelation therapy for elimination. Despite whole bowel irrigation (WBI), radiographs revealed prolonged gastrointestinal retention and pellet accumulation in the appendix, resulting in fluctuating blood lead concentrations. While NAC initially increased lead concentrations, succimer was more effective in reducing blood lead concentrations to 23.5 mcg/mL.

Conclusion: This highlights the risk of lead pellet ingestion and the importance of prompt evaluation, radiography, and ongoing monitoring to guide chelation therapy. Since British Anti-Lewisite (BAL) is no longer available on the US market for the treatment of lead toxicity, NAC may serve as an adjunctive therapy for severe lead toxicity assisting in lead mobilization and elimination. Further research is needed to validate NAC for its safety and efficacy. In conclusion, lead pellet ingestion necessitates urgent intervention, including lead removal and appropriate chelation to mitigate toxicity, and prevent adverse outcomes.