

P-20

A 14-year-old girl who attempted suicide by overdose of caffeine tablets: The first pediatric case

Takanori Noto,^{1,2} Masanari Ohsima,^{1,2} Hiroki Seto,^{1,2} Teppei Noguchi,¹ Tomoki Hanazawa,³ Tomohiro Yoshizawa,³
Junji Fukuhara,^{1,2} Masao Murabayashi,^{1,2} Ichiro Morioka,²

1) Department of Pediatrics, Numazu City Hospital. 2) Department of Pediatrics and Child Health, Nihon University School of Medicine. 3) Emergency Center and Poison Center, Saitama Medical University Hospital, Japan.

Objectives: Acute caffeine intoxication is common in adults, but rare in children. The cause in children is accidental ingestion or error in dosing. Our pediatric patient searched suicide methods on the Internet, bought commercial caffeine, overdosed, and developed intoxication. To the best of our knowledge, this is the first reported pediatric case of attempted suicide by caffeine overdose.

Case Report: A 14-year-old girl visited the emergency department at another hospital due to vomiting and nausea 3 hours after eating dinner. She received an intravenous antiemetic (metoclopramide) and fluid infusion. However, because the symptoms did not improve, she was transferred to our hospital. On admission (6 h after drug ingestion), she was unconscious with a Glasgow Coma Scale score of 11 (E4V1M6). Her blood pressure was 110/62 mmHg, with heart rate of 96 beats/min, and temperature of 36.4°C. Serum sodium was 138 mEq/L, with potassium of 2.9 mEq/L, creatine kinase (CK) of 317 IU/L (maximum CK level: 1,818 IU/L on a day after admission), and blood glucose 271 mg/dL. Blood gas analysis showed an elevated anion gap, with metabolic acidosis (pH: 7.349, base excess: -4.2 mmol/l, anion gap: 19.7). Abdominal X-ray showed absence of intestinal gas. No abnormal findings were observed on abdominal ultrasound and contrast computed tomography (CT). Head CT and magnetic resonance imaging were unremarkable. No cause for her symptoms was identified. Fluid infusion led to normal potassium and pH by 6 hours after admission. On the 3rd hospital day, consciousness returned and vomiting improved. She confessed taking 124 Estaron Mocha® tablets (12.4 g caffeine) as a suicide attempt. She found the method and lethal dose on an Internet site, and erased the search history. The serum caffeine concentration on the day of admission was 198 µg/mL on gas chromatography-mass spectrometry. The lethal ingested dose of caffeine is 5-50 g and the lethal blood concentration is >80-100 µg/ml. We diagnosed acute caffeine intoxication based on symptoms, blood concentration of caffeine, and empty packaging that was found.

Conclusion: Her presentation with consciousness disturbance, nausea and vomiting, tachycardia, hypokalemia, high serum CK, and elevated blood glucose were due to caffeine intoxication. Because caffeine drugs for dieting by promotion of fat metabolism, and prevention of drowsiness can be easily obtained commercially, pediatricians and acute care physicians should recognize caffeine intoxication when not only an adult, but also a pediatric patient presents with such symptoms and signs.