POISONING A FAMILY OF FOUR

Objective
We report the adulteration of beef with Lysergic acid diethylamide and the subsequent poisoning of a family of four.

Case Report
The regional poison center was contacted by a hospital to report possible food poisoning of a family that became ill within an hour after eating a meal. The family had moved into their house the previous weekend. The adult male had prepared a meal with ‘bottom round’ cut beef, vegetables and cheese, wrapped in a wheat flatbread. The ingredients had been purchased immediately prior to preparation. The father noted a strange odor when the oven was turned on for the first time. Four members of the family consumed the fajitas although one child ate beef only without vegetables. The adult male ate prior to the others and complained of dizziness, feet numbness, abdominal pain, and noted dilated pupils. The adult female drove them all to the Emergency Department. While in ED, the wife and the children ages five and seven became symptomatic. All had similar complaints of dizziness, hallucinations, and tingling extremities.

On admission to the ICU the adult male was agitated, disoriented, tachycardic (125 beats per minute), and hypertensive (170/89 mm Hg). The adult female was pregnant near full term. Decreased fetal heart rates were detected. She was taken to the operating room for an emergent cesarean section. Both children were electrocally intubated and admitted to the Pediatric ICU. The adult male was amnestic to recent events upon waking up in the ICU. Eight hours post-ingestion, the adult female appeared more lucid but continued to “lose focus and had to be redirected.” She corroborated the adult male’s account. Both children did well in the PICU, and were weaned off sedation and extubated within 18 hours of presentation. All patients experienced resolution of their symptoms and were ultimately discharged from the hospital within two days.

The police were dispatched to the scene. They noted a strong odor of old cooking grease in the house. Scraps of meat and packaging were collected for evidence and forwarded to the County Forensic Toxicology Laboratory for analysis. No illicit drugs or chemicals were found.

Method:
The victims’ hospital admission blood and urine specimens were screened using a routine liquid/liquid alkaline drug screen by Gas Chromatography and Mass Spectrometry (GC/MS). Other than caffeine, no drugs were detected in the blood and urine specimens. Based on case history, several pieces of the steak fajita meat were homogenized in water and extracted using a routine liquid/liquid alkaline procedure followed by analysis by Ultra High Performance Liquid Chromatography and Tandem Mass Spectrometry (UHPLC-MS/MS). The UHPLC-MS/MS method used was the LCMS/MS Standard Operating Procedure (SOP) for the detection of illicit drugs. No illicit drugs or chemicals were found.

Results:
LSD was identified on the steak fajita meat by GC/MS comparison to Mass Spectrometry (LC-MS). Subsequently, a standard of LSD and Lysergic Acid Diethylamide was analyzed by GC/MS. A compound that eluted approximately one minute after the LSD standard underivatized indicated a potential library match to Lysergic Acid Diethylamide (LSD). Subsequently, a standard of LSD and Lysergic Acid Methypropylamide (LAMPA) were purchased for a definitive GC/MS identification and confirmation. In addition, the victims’ urine specimens were sent to an outside reference laboratory for a targeted analysis of LSD by Immunoassay and confirmation by Liquid Chromatography and Tandem Mass Spectrometry (LC-MS/MS). The victims’ urine samples were screened using a routine liquid/liquid alkaline drug screen by Gas Chromatography and Mass Spectrometry (GC/MS). Other than caffeine, no drugs were detected in the blood and urine specimens. Based on case history, several pieces of the steak fajita meat were homogenized in water and extracted using a routine liquid/liquid alkaline procedure followed by analysis by Ultra High Performance Liquid Chromatography and Tandem Mass Spectrometry (UHPLC-MS/MS). The UHPLC-MS/MS method used was the LCMS/MS Standard Operating Procedure (SOP) for the detection of illicit drugs. No illicit drugs or chemicals were found.

Discussion:
The toxicologist on-call at the PC was consulted. Despite a negative standard urine drug screen for drugs of abuse it was suggested that the case series was consistent with a hallucinogen. An investigation into the sourcing and exposure pathway commenced. Perceiving a possible public health threat, local police were dispatched to the store where all similar meat sales were discontinued. The medical examiner’s office was contacted to assist in the analyses of meat samples. GC/MS identified the presence of LSD. Inspectors from the US Department of Agriculture (USDA) traced the beef back to the particular slaughterhouse. No anomalies or other reported cases were uncovered along the routes of distribution.

Local police, USDA, and FDA agents interviewed the family and found no evidence that the parents had drugged the meat themselves. Both parents agreed to polygraph testing and passed. There was no LSD residue in the oven.

Conclusions:
Contamination of food with hallucinogens is an extremely rare event. Forensic analysis of the suspected source identified LSD. Despite a law enforcement investigation, the origin of the spiked hallucinogen could not be identified.

References: