Letters to the Editor

Cashew nut shell liquid poisoning

Sir,

Termites are the major wood-destroying pests. Wood preservatives such as chlorinated products, boric acid, and arsenic compounds pose negative environmental threat. Termiticide from natural sources such as cashew nut shell liquid (CNSL) is less toxic. It is a reddish brown viscous liquid found in the pericarp of the cashew nut (*Anacardium occidentale*).[1] We report here a case of self-ingestion of termiticide containing CNSL.

A 23-year-old woman was brought to our hospital with H/o intake of 500 ml of PILOT wood preservative (CNSL). On arrival, she was conscious, oriented, and hemodynamically stable. She had no complaints. Blood investigations were normal except for TLC - 29,000, elevated liver function tests (LFTs) (total bilirubin - 2.8, direct - 1.4, indirect - 1.4, SGOT - 172, SGPT - 104, and ALP - 119), and abnormal coagulation tests (INR - 2.02, PTT 38.5). Arterial blood gas (ABG) showed metabolic acidosis (pH - 7.25, PCO_2 - 21, PO_2 - 141, and HCO_3 - 10). She was given fresh frozen plasma, bicarbonate, proton pump inhibitors, steroids, and N-acetyl cysteine. After few hours, she complained of burning sensation in throat, epigastrium, and perianal region. The urine and stool had the smell of CNSL. She had linear hyperpigmented lesions in the breast and anterior abdominal wall which corresponded to spillage of CNSL during intake [Figure 1]. She had also developed perianal skin excoriations. On day 2, she developed fever, tachypnea, dysphagia, tachycardia, and hypotension. Chest X-ray showed bilateral lung shadows suggestive of chemical pneumonitis. She was started on inotropes, antibiotics, and supplemental oxygen. LFT and ABG became normal. However, she became more tachypneic and was intubated on day 3. From day 5, her general condition improved. On day 7, she was extubated. She tolerated oral diet. Upper gastrointestinal endoscopy was normal.

Figure 1: Contact dermatitis (hyperpigmented skin lesions) due to cashew nut shell liquid spillage over abdomen

Natural CNSL contains mixture of various alkylated phenols. Anacardic acid (80.9%) is a major constituent followed by Cardol (10–15%) and small amounts of methyl derivatives of cardiol. It has phenolic fragrance.[2] Anacardic acid is a derivative of salicylic acid.[1]

Even though the compounds have phenolic structure, the clinical presentation of our patient was different from phenol poisoning. Symptoms of phenol poisoning develop rapidly and include nausea, vomiting, lethargy or coma, hypotension, tachycardia or bradycardia, dysrhythmias, seizures, acidosis, hemolysis, methemoglobinemia, and shock.[3]

CNSL is slightly acidic (pH - 6.8).[1] Our patient had symptoms of corrosive ingestion from day 1. In spite of consuming large amounts of CNSL, the symptoms resolved in few days.

Hyperpigmented skin lesions over the abdomen and breast were due to anacardic acid induced contact dermatitis. Anacardic acid is closely related to urushiol, which causes contact dermatitis. Perianal skin excoriation is due to ingested antigens that remain sufficiently intact within the feces to affect perianal skin.[4]

The bilirubin levels and liver enzymes were mildly elevated from day 1. The toxic hepatitis resolved by day 3. Our patient also had elevated prothrombin and partial thromboplastin time on day 1. This could be due to the inhibitory action of anacardic acid on clotting factors.[5]

Further studies are needed to know more about the clinical spectrum of CNSL poisoning.

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Conflicts of interest

There are no conflicts of interest.

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