ECRONICON OPEN ACCESS

EC EMERGENCY MEDICINE AND CRITICAL CARE
Case Report

From Toxicity to Brain Damage: The Case of Cade Oil Intoxication and MRI Abnormalities

Abir Lemrabet*, Yassine Zerhari, Hajar Zebbakh, Nazik Allali, Latifa Chat and Siham El Haddad

Radiology Department, Mother and Child Hospital IBN SINA, Rabat, Morocco

***Corresponding Author:** Abir Lemrabet, Radiology Department, Mother and Child Hospital IBN SINA, Rabat, Morocco.

Received: May 17, 2023; **Published:** March 15, 2024

Abstract

Cade oil, also known as Katran oil, is widely used in traditional Moroccan medicine for its antiseptic and parasiticidal properties. However, it has been associated with serious or fatal toxicity, especially in children. We report a case of a 12-month-old male infant who presented with severe systemic toxicity after exposure to cade oil applied to his scalp and extremities by his grandmother to treat fever and diarrhea. The infant developed generalized convulsive seizures, acute renal failure, and liver cytolysis. Brain MRI revealed anoxo-ischemic lesions in bilateral cortico-subcortical areas of the cerebellar hemispheres, cerebellar peduncles, posterior part of the Pons, and some frontal and parietal gyrus. The infant survived after symptomatic treatment and was discharged after seven days of hospitalization. This case highlights the potential dangers of cade oil and underscores the need to raise public awareness of its toxic effects.

Keywords: *Cade Oil; Katran Oil; Multi-Visceral Toxicity; Acute Renal Failure; Liver Cytolysis; Brain MRI; Anoxo-Ischemic Lesions*

Introduction

Cade oil is an essential oil widely used in traditional Moroccan medicine for its antiseptic, parasiticidal, and therapeutic properties. However, it is associated with serious or even fatal toxicity, particularly in children [1-3]. In popular medicine, cade oil is often applied topically to the skin and rarely taken orally. Following its absorption into the bloodstream, phenolic derivatives in cade oil can induce systemic and multi-visceral toxicity, typically involving neurological, renal, hepatic, and cardiovascular complications [4,5]. Here, we present a case of an infant with no notable pathological history who was exposed to a large amount of cade oil and subsequently admitted to the pediatric emergency department for the management of severe systemic toxicity.

Case Presentation

A 12-month-old male infant was brought to the pediatric emergency department after his grandmother extensively applied henna and cade oil on his scalp and extremities to treat fever and diarrhea. The infant exhibited incessant crying, followed by generalized convulsive seizures and drowsiness. Initial evaluation revealed the infant in a postictal state with a Glasgow Coma Score of 11/15. He had a fever of 38.9°C and a heart rate of 164 bpm. Laboratory tests showed acute renal failure and liver cytolysis. A cerebral MRI was performed due to persistent seizures, revealing bilateral and slightly asymmetrical cortico-subcortical lesions in the cerebellar hemispheres, cerebellar peduncles, posterior part of the pons, and some frontal and parietal gyrus, indicative of anoxo-ischemic injury (Figure 1). The infant survived after receiving symptomatic treatment and was discharged after a seven-day hospitalization in the intensive care unit.

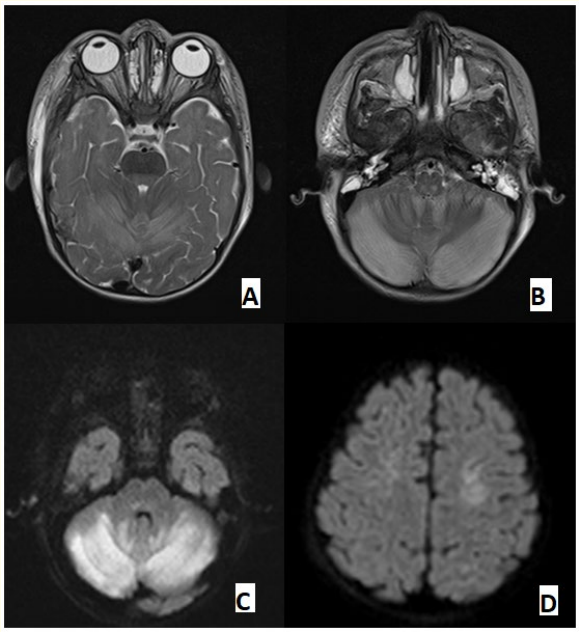

Figure 1: *MRI in T2 sequence in axial section (A, B), and axial diffusion (C, D) showed high intensity signal with restrictive diffusion of bilateral and slightly asymmetrical cortico-subcortical areas of the cerebellar hemispheres, cerebellar peduncles, posterior part of the Pons, and some frontal and parietal gyrus related to anoxo-ischemic lesions.*

Discussion

Poisoning induced by cade oil can occur through ingestion of a large quantity or prolonged and extensive skin application. Its toxicity is due to its phenolic derivatives [1,2], which can result in potentially fatal acute poisoning, often requiring intensive care [4]. Cade oil is rapidly absorbed, and its metabolism is essentially hepatic a significant role [6]. The severity of the symptoms depends on the dose, duration, and route of oil administration. The clinical presentation is nonspecific, with central and peripheral nervous system involvement. Headache, seizures, hypotonia, and even coma have been reported in several cases of phenol poisoning [6,7]. Cases of acute renal failure have been reported in the literature, attributed to renal tubular necrosis from hemodynamic disturbances and precipitation of hemoglobin and myoglobin in the tubules. Hepatic cytolysis due to centro-lobular necrosis has also been reported. Cardiovascular disorders and pulmonary involvement have also been reported in the literature [7].

Treatment involves rapid skin decontamination with soap and water to reduce oil absorption, along with symptomatic and supportive management of vital functions. In severe cases, patients may require intensive care and specific treatments such as hemodialysis for acute renal failure or liver transplant for fulminant liver failure. However, prevention remains the most effective way to avoid the toxic effects of cade oil, and healthcare professionals should raise awareness among patients and families about its dangers.

The case presented highlights the importance of recognizing the potential toxic effects of traditional remedies, especially in young children who may be more vulnerable to the toxic effects due to their smaller body mass and higher absorption rates. The use of traditional medicines and remedies is common in many cultures and can have significant benefits for patients, but it is essential to balance the potential benefits with the potential risks.

Therefore, it is necessary to improve public awareness of the potential risks of traditional remedies and to encourage patients and families to seek medical advice before using them. Furthermore, healthcare professionals should be knowledgeable about the potential toxic effects of these remedies and educate patients and families about safer alternatives when available.

Conclusion

In conclusion, this case underscores the importance of healthcare professionals remaining vigilant regarding the potential toxic effects of traditional remedies, particularly in young children. While these remedies can offer significant benefits, their use should be approached with caution. Healthcare professionals should prioritize patient safety by raising awareness of potential risks and advocating for safer alternatives when available.

Bibliography

1. Belakhdar J. "La pharmacopée marocaine traditionnelle, médecine arabe ancienne et savoirs populaires". Paris: Ibis Press (1997).
2. S Benomar., *et al*. "Connaissances et pratiques traditionnelles des mères en matière de soins des nouveaux-nés". *Archives de pédiatrie* 169.7 (2000): 713-789.
3. I Teixidor-Toneu., *et al*. "Treating infants with frigg: linking disease aetiologies, medicinal plant use and care-seeking behaviour in southern Morocco". *Journal of Ethnobiology and Ethnomedicine* 13.1 (2017): 4.
4. ST Koruk., *et al*. "Juniper tar poisoning". *Clinical Toxicology (Phila)* 43.1 (2005): 47-49.
5. A Sanae., *et al*. "Intoxication mortelle à l'huile de cade à propos de deux cas". Urgence Prat (2008).
6. Skalli S., *et al*. "Side effects of cade oil in Morocco: an analysis of reports in the Moroccan herbal products database from 2004 to 2012". *Food and Chemical Toxicology* 64 (2014): 81-85.
7. Rahmani H., *et al*. "Severe acute lung oedema after rectal enema with cade oil". *Clinical Toxicology* 42 (2004): 395-564.

Volume 8 Issue 1 January 2024