Neem Oil Poisoning as a Cause of Toxic Encephalopathy in an Infant

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To the Editor: Neem oil (*Margosa* oil) is deep yellow extract of neem tree (*Azadirachta indica* A. Juss) seeds widely used in India as a traditional medicine for various skin diseases, as pesticide/insecticide, and in cosmetics [1, 2]. Toxic ingredients include azadirachta, nimbin, nimbinin, nimbidin, nimbidol, picrin, and sialin [1, 2]. Poisoning is usually accidental by nasal or oral administered to infants and children for cough and cold, pain abdomen, and deworming; or rarely suicidal [2]. Even small doses can cause toxicity include vomiting, drowsiness, generalized seizures, coma, and severe metabolic acidosis especially in infants and young children [3]. Management is usually supportive in form of control of airway, breathing and circulation; avoid gastric lavage; control of convulsions; and correction of metabolic acidosis with intravenous fluids, oxygen, and sodium bicarbonate [1, 2].

We report a 3-mo-old boy who presented with unconsciousness soon after his mother gave him 5 mL of neem oil orally for supposed indigestion. He had tachycardia, tachypnea; normal blood pressure, perfusion, oxygen saturation; Glasgow coma score (GCS) of E3V3M4; and normal rest of neurological and systemic examination. He had metabolic acidosis (pH: 7.21, bicarbonate: 14, and base deficit: -10); and normal blood counts, blood sugar, C-reactive protein, renal and liver functions, electrocardiogram, and chest radiograph. He was started on oxygen, intravenous fluids and Ceftriaxone. He was not subjected to lumbar puncture and neuroimaging; and antibiotics were stopped as coma and metabolic acidosis started improving and normalized between 18–24 h, and literature suggests that these are features of

Neem oil poisoning. He was discharged after 48 h and was well 3 mo after discharge.

Few infants and children have been reported with similar features after Neem oil poisoning [1–5]. Prognosis is usually good, however, delayed milestones, long term neurodeficits, recurrent seizures, abnormal electroencephalogram (EEG), and deaths have been observed [2, 5]. Since neem oil is commonly used as traditional medicine in India, its poisoning is not uncommon. So, pediatricians should be aware of this condition and public should be educated regarding the safe use of neem oil.

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