Severe respiratory and esophageal effects resulting from ingestion of unit dose liquid laundry detergents: a case report

INTRODUCTION: Unit dose liquid laundry detergents (UDLD) are water soluble capsules containing 15/32 ml of highly concentrated cleaning agents. The risk of corneal damages and severe respiratory effects due to accidental exposure of young children had been initially documented in a few European Countries (1-3). In Italy, UDLD were introduced in the market in July 2010. Between July 29, 2010 and October 31, 2012, the National Poison Control Center in Milan handled 1,143 cases of exposure to UDLD. Among them, 94% were <5 years old, 92.4% were exposed by ingestion or mouth mucosa and 76% reported at least one sign/symptom possibly related to the exposure. Each case was followed and 1% (N° 11) cases were severe. The present contribution is aimed at describing a case with prolonged respiratory clinical effects and esophageal lesions due to ingestion of a UDLD.

CASE REPORT: A 13-month-old, 10.5 kg, child girl experienced breathing difficulties, repeated episodes of apnea, and vomiting immediately after ingestion a UDLD. On arrival to hospital, 75’ after ingestion, the child breathed normally. However, she was noted to by irritable. Oral examination showed inflammation of pharynx and increased bronchial secretions. Five hours after exposure she began coughing and wheezing and was treated with methylprednisolone (2 mg/kg).

Laringoscopy revealed epiglottic, arytenoids and hypopharynx edema. Gastroscopy found longitudinal and circumferential lesions of the esophagus and the lower middle third of the stomach with bloody contents. Bilateral lung opacities and esophageal lesions were observed by thoracic ultrasounds. Chest-x-ray showed perihilar bronchial wall thickening.

The child necessitated endotracheal intubation and mechanical ventilation for 11 days. She was extubated on the 12th day after ingestion. Full respiratory recovery followed over the next four days. Forty days after exposure gastroscopy was normal.

CONCLUSION: Exposure due to UDLD ingestion are frequently reported in children. Patients may develop with respiratory distress with delayed bronchospasm and GI lesions. Respiratory effects may be prolonged. The exact toxicologic mechanism is not well understood. UDLD ingestion poses a relevant public health issue and require adequate preventive measures. Parents and caregivers should be alerted in order to keep these products out of a child’s reach.