

Development of respiratory acidosis following the ingestion of liquid detergent capsule by 1 year 10 months old boy: A case report.



The Poison Information Centre's objective is to provide adequate advice quickly so as to reduce the incidence of illness, damage to health and death as a result of severe cases of poisoning. Our centres are staffed with internationally trained and highly experienced doctors and nurses working in the fields of emergency medicine, anaesthesia and intensive care.

www.16662.ee

Kastanje R, Põld, K¹, Peet, A², Maipuu, L³, Oder, M¹

¹ Estonian Poisoning Information Centre (EPIC)

² Department of Paediatrics, University of Tartu; Children's Clinic of Tartu University Hospital, Estonia

³ Paediatric Intensive Care Unit, Clinic of Anesthesiology and Intensive Care, Tartu University Hospital

Estonian Poison Information Centre • Phone: +372 626 9379 • E-mail: info@16662.ee • www.16662.ee

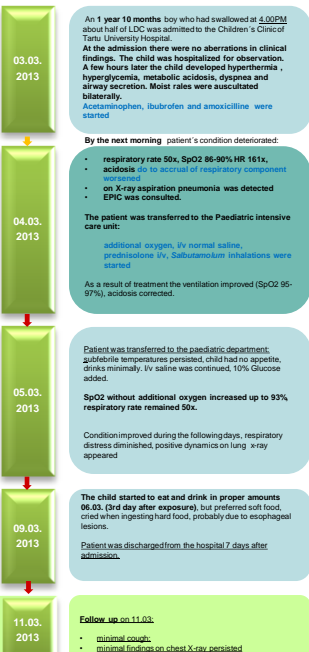
Objective

Liquid detergent capsules are water soluble laundry detergent capsules (LDC), containing highly concentrated cleaning agents. In Estonia (population 1.3m) LDCs became widely available in 2012. Estonian Poisoning Information Centre (EPIC) has received 43 inquiries concerning LDC exposure during the period 1 January 2012-1 November 2013 (22 months) (and already 13 calls by the next 6 months). At the same time with increased number of poisonings started by EPIC educations for medical personnel and to population about LDC and prevention / treatment from poisoning of LDC. The majority of inquiries concerned unintentional exposures in children 5 years of age or less, except one intentional exposure concerning a 16 year old.

Exposures mainly occurred as "ingestion only". Ingestion may result in gastrointestinal complaints, chemical burns, respiratory problems, acidosis (1) and central nervous system (CNS) depression (3). Respiratory and CNS effects are associated with more severe outcome (2,4). Severe cases are reported to cause respiratory distress with delayed bronchospasm, GI lesions and prolonged respiratory effects (5).

The aim of this report is to describe development of acidosis due to ingestion of LDC by a toddler.

Case report



Results

	03.03.2013	04.03.2013	05.03.2013	09.03.2013	09.03.2013
time:	7:10 pm	08:55 am	02:14 pm	09:10 pm	
pH	7.282	7.234	7.359	7.417	
BE (mmol/L)	-5.9	-5	-5.9	-4.3	
pCO2	40.6	52.2	33.9	30	
HCO3 (mmol/L)	18.8	21.3	18.1	19.1	
Lactate (mmol/L)			3.1	1.8	
Glucose (mmol/L)	15.2	14.6	7.2	6.4	
CRP (mg/L)			36	108	3

Fig 1. LAB-results changes 03.03.-09.03.2013.

Conclusion

Due to the increased risk of aspiration pneumonia, acidosis and chemical burns, children with exposure to LDCs should be referred to hospital for evaluation even in the case of mild initial symptoms. Greater consumer awareness is required to reduce injury from LDC.

References

1. Williams H, et al. Exposure to liquid detergent capsules: A study undertaken by the UK National Poisons Information Service. *Clinical Toxicology* (15563650). Sep/Oct2012. Vol. 50 Issue 8:778-780
2. Scherman E, J. Liquid "Laundry Pods": A missed global toxicovigilance opportunity... *Clinical Toxicology* (15563650). Sep/Oct2012. Vol. 50 Issue 8:725-726
3. Wood KL, Thompson J.P. Liquitabs – a thorough and comprehensive review of the UK national data. *Clin Toxicol* 2009; 47: 459. (abstract)
4. Huntington S, et al. "Serious adverse effects from single-use detergent sacs: report from a U.S. statewide poison control system." *Clin Toxicology* 2014;52:220-225
5. Celentano A, et al. "Severe respiratory and esophageal effects resulting from ingestion of unit dose liquid laundry detergents: a case report." *Clin Toxicology* 2013;51:252-378 XXXIII EAPCC Congress poster.

Acknowledgements