

Exposures to liquid detergent capsules in children

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Objective

Since 2012, the Poisons Information Centre Erfurt observed an increasing number of exposures to liquid detergent capsules (i.e. Persil® Mega-Caps and Duo-Caps; containing more than 70% surfactants in a water-soluble shell), particularly in infants. We report on several exposures, evaluating the causes and risks of these cases.

Case report

PIC Erfurt 2013

Patient:

17-months-old male toddler; 12.6 kg BW

History:

Probable ingestion of the total content of one Persil® Duo-Caps. Child spewed and vomited once at home.

Clinical features:

Upon arrival in hospital about 30 minutes after ingestion hoarseness, pharyngeal redness, violent coughing and bilateral inspiratory rhonchi plus ubiquitous abdominal tenderness on palpation. Recurrent emesis and diarrhoea began during clinical examination. X-ray examination showed a brochopneumonic pattern (fig. 1).

Laboratory:

Leukocytosis (day 1) and rise in C-reactive protein (day 3) were noted.

Scatocopy showed no evidence for infectious disease.

Treatment and outcome:

Simethicone initially 10 mL followed by 15 drops with every meal; infusion for 2 days and inhalation therapy until full recovery

Day 2 - coarse respiratory crackles were observed and x-ray examination of the chest was performed; antibiotic treatment was started; no further gastrointestinal disturbances.

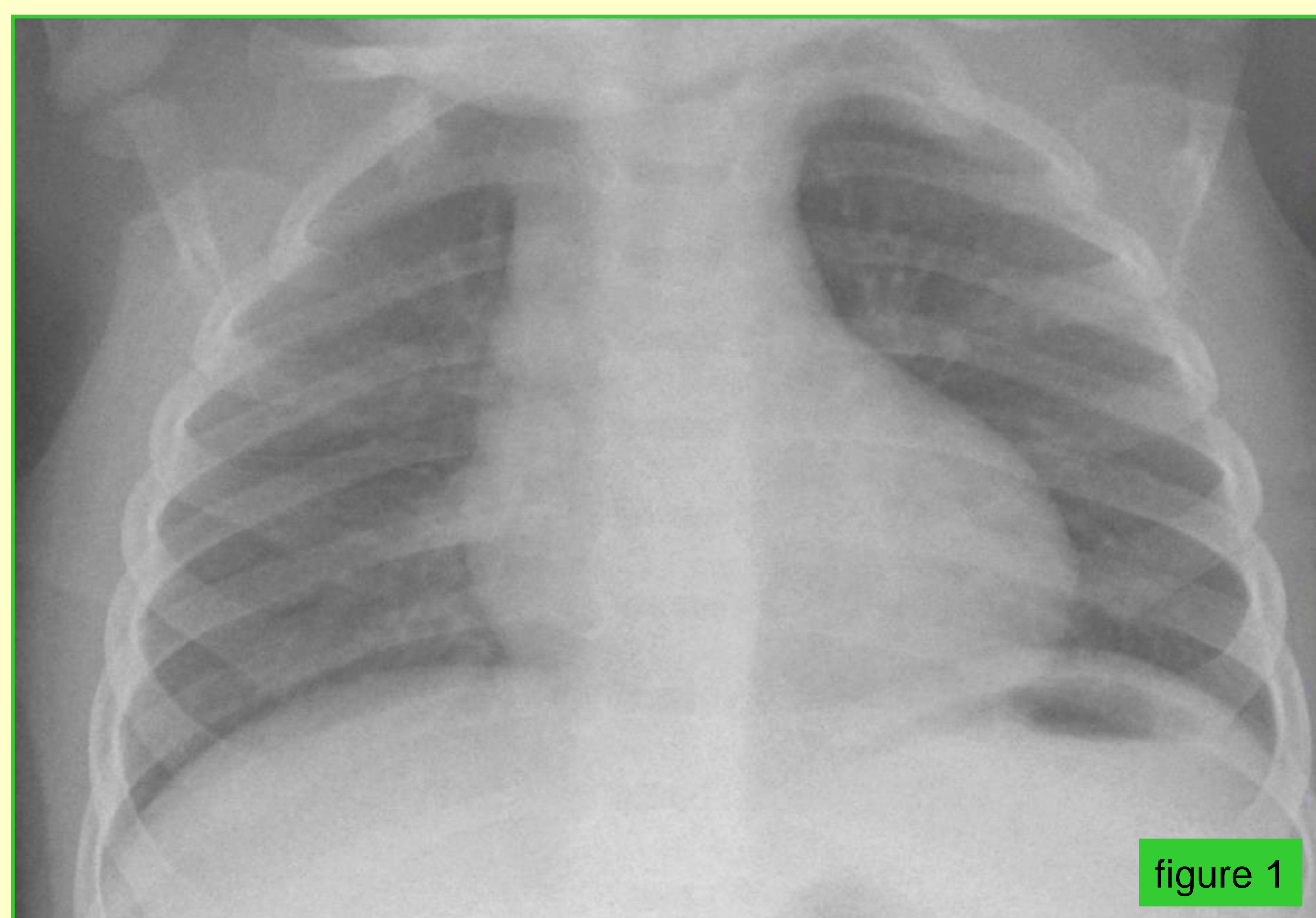


figure 1

Day 3 - child was discharged from hospital with persistent pharyngeal redness, coughing with mucous sputum and coarse respiratory crackles; antibiotic treatment was continued ambulatory

Day 4 - unchanged medical findings and continuation of antibiotic treatment

Day 9 - full recovery of breathing function

Case series

PIC Erfurt July 2012 to April 2014

Patients:

69 children aged five months to five years (median two years) and 1 puppy

Clinical features :

Gastrointestinal disturbances occurred in 47 cases (67.1 %): immediate (18 cases – 25.7 %) and recurrent emesis (24 cases – 34.2 %) was the primary symptom in most cases; in 3 cases only retching appeared; 3 children spewed foamy bubbles; 2 children showed diarrhoea, one of them with exsiccosis; one child had swallowing disorders, another child refused to eat.

Breathing difficulties also occurred frequently (20 cases – 28.5 %): coughing was observed in 19 cases (27.1 %) including the puppy; other symptoms were pharyngeal redness, hoarseness and stertorous breathing. One child was in need of intensive care treatment with endotracheal suctioning of secretions, in another child brochopneumonia was diagnosed and treated with antibiotics (see case report).

Children with a definite exposure but without symptoms had only a short oral or dermal contact with the detergent solution without actual ingestion (16 cases – 22.8%).

Conclusion

- **Due to the concentrated nature of the detergent, ingestion of even small amounts may cause intensive gastrointestinal disturbances in children.**
- **In contrast to other household detergent exposures these cases are associated with a high risk of aspiration so immediate clinical admission is required.**
- **The attractive product design in a water-soluble envelope is the cause of an increasing number of exposures (1), not only in children but also in pets.**

References

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