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Alarming Rise in Major Complications from Button Battery Ingestions

Ingestion of large button batteries, particularly lithium cells, accounts for the increase in poor outcomes.

To describe recent trends in button battery ingestions, investigators collected data from the National Poison Data System (NPDS; 56,535 cases reported during 1985–2009), the National Battery Ingestion Hotline (NBIH; 8161 cases during 1990–2008), and all 73 major (life-threatening or disabling) and 13 fatal cases ever reported in the medical literature or to the NBIH.

NPDS data showed no consistent trend in annual frequency of button battery ingestions. However, the proportion of major or fatal cases increased 6.7-fold between the first 3 years (1985–1987) and last 3 years (2007–2009). Children younger than 6 years accounted for 68% of NPDS cases and 62% of NBIH cases; all NBIH fatalities and 85% of major cases were in patients younger than 4 years. In logistic regression analysis of NBIH data, predictors of poor outcome were large battery diameter (20–25 mm; odds ratio, 24.6), age <4 years (OR, 3.2), and ingestion of more than one battery (OR, 2.1).

During 2000–2009, 92% of major and fatal cases were from ingestion of 20-mm lithium cells. Injuries (e.g., severe burns, esophageal stenosis, bilateral vocal cord paralysis) occurred as soon as 2 hours after ingestion. Most major and fatal cases occurred in children <4 years old (92%) and were unwitnessed (56%), and many unwitnessed cases were initially misdiagnosed (46%). The authors present a management algorithm that recommends endoscopic removal of esophageal button batteries within 2 hours of ingestion.

Comment: These data are sobering. Physicians should keep button cells high on the list of differential diagnoses for any child who presents with airway obstruction or wheezing, drooling, vomiting, chest discomfort, difficulty swallowing or refusal to eat, or choking or coughing while eating or drinking. Once an esophageal button battery is identified, consultants must be mobilized for emergent removal.

— **Katherine Bakes, MD** ([Link to: http://emergency-medicine.jwatch.org/misc/board_about.dtl#aBakes](http://emergency-medicine.jwatch.org/misc/board_about.dtl#aBakes))

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