

Swallowing disc batteries can cause severe injury in children

20 September 2010

Severe injury to the esophagus can occur after a child swallows a disc battery, according to a report in the September issue of *Archives of Otolaryngology-Head & Neck Surgery*.

"A disc battery is an increasingly common foreign body ingested by children," the authors write as background information in the article. The American Association of Poison Control Centers reported a total of 2,063 disc battery ingestions in 1998; the number increased 80 percent during the next eight years. When the battery is lodged in the esophagus, its alkaline contents can leak, causing tissue death and burns from electrical discharge.

Stanley J. Kimball, D.O., of Mount Carmel Health System, Columbus, Ohio, and colleagues reviewed the medical charts of 10 pediatric patients who underwent endoscopic retrieval of a swallowed disc battery over a 10-year period between 1998 and 2008. The children were an average age of 3.2 years, four were female and six were male. A chest X-ray was taken for each patient and one also underwent a chest computed tomographic (CT) scan.

"Five patients had an observed ingestion or were found coughing," the authors write. "Two patients complained of a sore throat and self-reported foreign body ingestion. Three patients were diagnosed incidentally via chest radiograph (two exhibited persistent upper respiratory tract symptoms, and one had the foreign body discovered during a workup for chest and back pain after falling off her bike)."

The children stayed in the hospital for an average of 6.9 days, with a range of one to 30 days. Six patients were seen within six hours of ingesting the battery, one after 10 hours and one after 12 hours; two patients had a substantial delay in discovery of the battery, one for seven days and one for 30 days.

Three patients had minimal damage to the esophagus, including one with no injury and two with superficial injuries to the mucus membrane. The other seven patients had more severe damage, with five sustaining damage to the smooth muscle lining the esophagus and two experiencing a perforation of the esophagus (occurring in both patients with delayed diagnoses). One patient's extensive injury resulted in a tracheoesophageal fistula, an opening between the trachea and esophagus.

"In conclusion, severe injury can occur rapidly following disc battery ingestion. A high index of suspicion for a disc battery is necessary to avoid life-threatening sequelae. Emergency endoscopic retrieval is required in these situations," the authors write. "A multidisciplinary approach involving otolaryngology and pediatric surgery can be very helpful, especially when a tracheoesophageal fistula and/or uncontained perforation is identified."

More information: *Arch Otolaryngol Head Neck Surg.* 2010;136[9]:866-871.

Provided by JAMA and Archives Journals

APA citation: Swallowing disc batteries can cause severe injury in children (2010, September 20)
retrieved 10 May 2021 from <https://medicalxpress.com/news/2010-09-swallowing-disc-batteries-severe-injury.html>

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