Swallowing disc batteries can damage kids’ esophagus

The accidental swallowing of small disc batteries can cause severe injury to the esophagus of the very young children, suggests a new pediatric case-study review.

Ingestion of small disc batteries or “button batteries,” which are currently used to power a wide array of household products like calculators, hearing aids, and a host of handheld digital devices, is sharply rising in children.

Button batteries dangerous for kids

A new study by US doctors find out that small disc batteries, generally smaller than a nickel, swallowed by curious young children can lead to them suffering serious harm or death.

Button battery ingestions have increased dramatically since 1998, according to the study by Stanley J. Kimball of Mount Carmel Health System in Columbus, Ohio, and colleagues.

Severe injury to the esophagus can occur after a child swallows a disc battery, the authors wrote in their report "A disc battery is an increasingly common foreign body ingested by children," the report says.

Study findings

After reviewing the medical charts of the child patients, the research team found that seven of the cases, of whom four were female and six were male, had severe damage, with five sustaining damage to the smooth muscle lining the esophagus and two experiencing a perforation of the esophagus.

In three patients, researchers say, minimal damage to the esophagus was discovered, with one showing no injury and the two reporting superficial injuries to the mucous membrane.

One patient’s widespread injury resulted in a tracheoesophageal fistula, an opening up of a hole between the patient’s trachea and esophagus.

In two cases, the children were seen within three hours of ingestion and still sustained a perforation to their esophagus.

*Five patients had an observed ingestion or were found coughing,* the authors write in the report. "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)."

**Study details**

For the study, Kimball and colleagues looked at the cases of 10 children--average age: 3.2 years--who swallowed a disc battery and underwent endoscopic retrieval of the ingested battery following X-rays and chest scans over a 10-year period between 1998 and 2008.

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Kimball and his associates noted that the children stayed in the hospital for an average of 6.9 days, with one hospitalized for 30 days.

Of the patients, six were seen within six hours of ingesting the alkaline-leaking capsule, one 10 hours later, and another after 12 hours. One patient's swallowed battery was discovered after seven days, and another patient's was discovered after 30 days.

"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."

Citing a report by the American Association of Poison Control Centers, the researchers say that a total of 2,063 disc battery ingestions are reported in 1998. But this number increased 80 percent during the next eight years.
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