

## CLINICAL IMAGE

# Put your money where your mouth is

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**Abstract**

Suspicion for battery ingestion should be maintained for any round radiopaque foreign body. Presence of the classic “double ring” sign on plain film should prompt emergent operative removal, although it is not pathognomonic.

**KEYWORDS**

button battery, foreign body, ingestion, pediatric emergency medicine

Abstract and clinical question (Figure 1).

A 7-year-old girl was brought to the emergency department for progressive throat pain and poor secretion tolerance 2 hours after swallowing a metallic object that she was unable to regurgitate. What is the differential diagnosis and next step?

## 1 | DISCUSSION

An anteroposterior plain film demonstrated a “double ring” sign (Figure 1), concerning for a button battery, but the lateral film was equivocal. Otolaryngology was consulted, and she was urgently taken to the operating room for rigid esophagoscopy. Fortunately, a bimetallic coin (\$5 Mexican Peso) was retrieved instead of a button battery (Figure 2). Although foreign body ingestions are generally well tolerated, lithium battery ingestions can become quickly fatal as it reacts with saliva, releasing strong alkali that cause electrochemical burns and liquefactive necrosis resulting in esophageal erosions complicated by mediastinitis or, in the worst case, an aortoesophageal fistula.<sup>1</sup> Although suspicion for battery ingestion should be maintained for any round radiopaque foreign body, presence of the classic “double ring” sign on

plain film should prompt emergent operative removal.<sup>2</sup> This radiographic tip-off is created by the battery's concentric anode and cathode, though the outer ring is typically thinner than this image. Lateral views of a battery in profile can show



**FIGURE 1** Anteroposterior plain film demonstrating a radiopaque foreign body with a “double ring” superimposing the esophagus

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**FIGURE 2** The foreign body retrieved at the time of rigid esophagoscopy was a bimetallic coin (\$5 Mexican Peso)

a slight height step-off. This patient was happily discharged from the recovery suite after passing a PO challenge.

#### ACKNOWLEDGMENTS

Published with written consent of the patient.

#### CONFLICT OF INTEREST

None of the authors have published or submitted any related papers from the same study or have any conflicts of interest or financial disclosures to report.

#### AUTHOR CONTRIBUTIONS

JRQ: involved in study conception, data acquisition and literature review, manuscript drafting, critical revision of

manuscript, and final approval of manuscript. TLF: involved in study conception, critical revision of manuscript, and final approval of manuscript.

#### ETHICAL APPROVAL

This manuscript is exempt from the UC San Diego Health Institutional Review Board (IRB) approval process because it does not contain any patient identifying information or photographs.

#### DATA AVAILABILITY STATEMENT

Data sharing is not applicable to this article as no new data were created or analyzed in this study.

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