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Delayed Presentation of Button Battery Ingestion in A 6-Year-Old Girl: A Case Report

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ABSTRACT:
Foreign body ingestion is a common presentation to Otorhinolaryngology Department (ORL) especially among pediatrics population [1,2]. Foreign body can be food or non-food related substances. Button battery ingestion is a life-threatening emergency which can cause injuries such as oesophageal strictures, perforations, tracheoesophageal fistulas, mediastinitis and aortoesophageal fistulas [3]. The extent of damage increases with the duration the button battery remains lodged, underscoring the importance of promptly identifying ingestion [4,5]. We present a case of a child with a delayed presentation of battery ingestion and a complication of esophageal injury.

CASE PRESENTATION:
A 6-year-old girl presented to Emergency Department with history of unresolved cough, sore throat and unable to swallow solid food due to vomit post ingestion for the past 5 days. She is only able to tolerate fluid and soft diet. The girl didn't have any fever, no runny nose and also denied any foreign body ingestion.

During day 1 of illness, she was taken to a general practitioner and was diagnosed with an upper respiratory tract infection and prescribed with a cough medication. However, symptoms persist and a second visit to the same general practitioner was made on day 5 of illness, thus she was referred to Emergency Department.

INVESTIGATIONS:
A chest x-ray was done in the Emergency Department and revealed a circular opaque foreign body at the thoracic level T3-T4. A halo sign was visualized on the anteroposterior view which suggest a possibility of a button battery ingestion (Figure 1). Her blood investigations revealed a raise white blood cell 18.7 x 10^3/uL and raised C-Reactive Protein (CRP) of 90.99mg/L

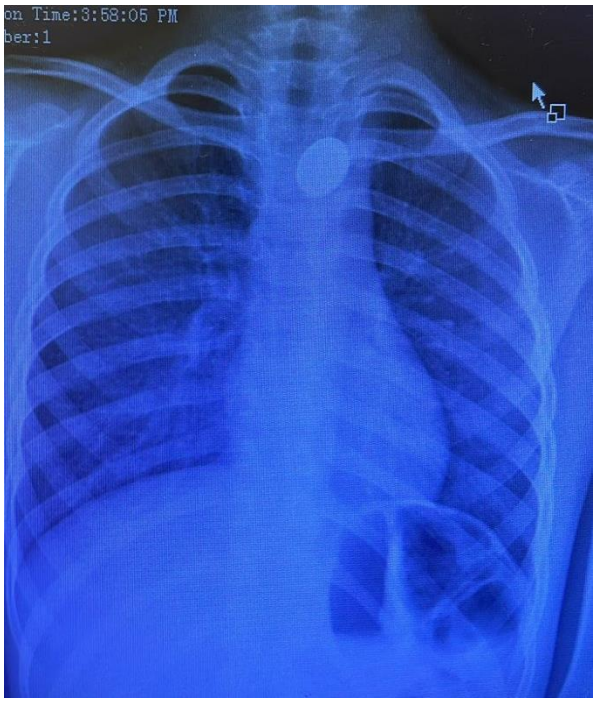

Figure 1- AP chest x-ray

TREATMENT:

An urgent esophagoscopy was done by ORL surgeon and a 20mm round lithium battery was removed (Figure 2). Surgical team was referred & esophagogastroduodenoscopy (OGDS) was performed. There was a deep ulcer extending from 12cm until 16cm from upper incisor with a linear tear along the length of esophageal wall. Patient was transferred to tertiary pediatric centre for further treatment and management.

She was admitted in the tertiary pediatric centre and observed for 1 month, where initial feeding was via Ryles-tube. Subsequently she able to tolerate feeding by oral and was discharged well from the hospital.

Figure 2 – A 20mm lithium button battery

DISCUSSION:

This case underscores the severe outcomes resulting from delayed recognition of button battery ingestion. Most Emergency Department patients with battery ingestion are asymptomatic, and non-specific symptoms like nausea, vomiting, dysphagia, or irritability occur in only 10-20% [6]. Furthermore, when no clear history of ingestion can be given from the patient or parents the diagnosis can often be delayed [4]. To expedite diagnosis, triage and treatment protocols recommend immediate X-rays for suspected or confirmed cases of battery ingestion [7].

Factors increasing the risk of potential complications include a lithium button battery diameter of ≥20 mm, patient age below 4 years, ingestion of multiple batteries, an unknown or unwitnessed ingestion time, misdiagnosis of ingestion, and delayed removal of the battery [4]. In this case, initial general practitioner evaluation diagnosed the child with an upper respiratory illness. Due to persistent symptoms, after several days she was referred to the Emergency Department where chest x-ray was obtained and helped in the diagnosis. Delayed removal and higher degrees of injury increase the risk for severe esophageal injuries [8]. Fatal outcomes frequently result from delayed identification and removal reports, attributed to prolonged contact time and consequent extensive injury [9].

In conclusion, the most effective approach is prevention. Parents and caregivers must recognize the potential hazard of button battery ingestion and understand the criticality of prompt care. It's crucial to assess the security measures of devices with button batteries, ensuring they are child resistant [9]. Lastly, there is a lack of public understanding regarding the severity of harm resulting from ingesting button batteries, emphasizing the need for enhanced public education on the consequences of such ingestion [10].

DISCLOSURES:

Patient consent: Guardian consent obtained.
Conflicts of interest: The authors have no conflicts of interest to declare.

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