Spontaneous Resolution of a Tracheoesophageal Fistula Caused by Button Battery Ingestion

This observation reports a pediatric case of spontaneous resolution of tracheoesophageal fistula caused by button battery ingestion. Button battery ingestion in children is a common problem, and it can cause clinically significant morbidity and mortality. Complications including tracheoesophageal fistula are rare but serious if the battery is not removed early. Our purpose is to emphasize the importance of the conservative management prior to surgical intervention to allow possible spontaneous closure.

Report of a Case | An 18-month-old girl, with a history of accidental button battery ingestion removed after 48 hours endoscopically, presented to an emergency department with dysphagia for solids, violent coughing bouts, tachypnea, and drooling.

The physical examination showed that her weight was 10.5 kg (in the 25th percentile) and that her temperature was 39°C. Chest auscultation revealed bronchial rales in both lung fields. The endoscopic assessment (esophagoscopy and tracheoscopy) and a computerized axial tomography (CT) scan of the chest with 3-D reconstruction (Figure 1) showed a large tracheoesophageal fistula (TEF) (15 mm in diameter) at the D1 level.

A gastrostomy feeding tube was then placed under endoscopic guidance. The patient was scheduled for repair of the TEF with an esophageal stent endoscopically 3 weeks later but a resolution of the TEF was found without need for any therapy.

At a 1-year follow-up, she remained asymptomatic, on a regular diet, and an esophagram (Figure 2) showed no evidence of stricture or residual tracheoesophageal fistula.

Discussion | Button battery ingestion can cause significant morbidity and mortality, especially when the button is stuck in the esophagus. Owing to different mechanisms, it may cause local damage and necrosis.1 The generation of the external electrolytic current can hydrolyze tissue fluids and produce hydroxide at the battery’s negative pole. Batteries must be removed urgently to limit such potential complications as perforation, TEF, esophageal strictures, vocal cord paralysis, spondylodiscitis, and hemorrhagic complications.2 The TEF is detected in most cases during esophagoscopy and CT scan. If a fistula is seen, the child should not be fed, and intravenous antibiotics should be initiated in case there is a suspicion of mediastinitis.

Various treatment modalities have been described for acquired TEF and there is no consensus.3 Conservative treatment with esophageal stents can be tried if there is no severe sepsis, pneumothorax, or a pneumomediastinum.
Only a few cases of spontaneous closure of the TEF have been reported, although the rate may be higher and just not reported. \(^4,5\) Conservative treatment has usually been tried for foreign bodies which have passed the esophagus. For our patient, it took 3 weeks for fistula to heal and close.

We believe that this acquired TEF was caused by button battery ingestion. If the esophagus is allowed to rest for 4 to 10 weeks, it has a chance of healing, which can prevent multistage operation procedures. Education of parents about the potential dangers of button battery ingestion is critical.

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COMMENT & RESPONSE

Scratching the Surface of Suicide in Head and Neck Cancer

To the Editor Cancer, both in its diagnosis and its management, imposes significant psychological distress. Kam et al recently published a retrospective review of data from the Surveillance, Epidemiology, and End Results (SEER) program, specifically investigating suicide in patients with head and neck (HN) cancer. They determined that suicide rates among patients with HN cancer are significantly higher than those in the general population, which is corroborated by previously published evidence. \(^2\) Among the broad category of HN cancers, hypopharyngeal cancer was associated with the highest incidence of suicide. The authors postulated that such a correlation may be linked with diminished quality of life (QOL) associated with the disease and its treatment. An additional factor, not discussed in their paper, is the fact that the 5-year survival rate for individuals with hypopharyngeal cancer is 31.9%\(^3\)—a demoralizing prognosis for any patient.

We agree with the authors that screening for depression and suicidal ideation should be considered for these patients who are at high risk for self-harm, because this is the standard of care based on the current American Society of Clinical Oncology (ASCO) recommendations for depression screening. \(^4\) We also applaud their efforts in promoting attention to the mental health of patients in whom such concerns often go unrecognized. However, we note that the authors focus primarily on the subject of depression to the exclusion of other possible causes of suicidality. While depression may respond to interventions like pharmacotherapy (eg, SSRIs) and cognitive behavioral therapy, other causes for suicidal ideation (eg, severe demoralization, existential distress, resignation to prognosis) may evade traditional solutions. For example, the combination of QOL impairment and poor prognosis mentioned above could promote a desire to end one’s life quickly, and this desire could occur outside the context of overt depression. \(^5\) Thus, focusing on mental illness as the sole cause for increased suicide risk reduces the patient experience of cancer to only one potential nidus of improvement. Further research is required to improve the prognosis of HN cancer as well as posttreatment QOL, and to support the bio-psycho-social-spiritual experience of HN cancer patients. Studying demoralization and existential distress may lead to the development of interventions that improve rates of suicide and suicidal ideation in this population. Ultimately this will allow clinicians to better address their patients’ suffering.

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