Early endoscopic gastric lavage for acute iron overdose : a novel approach to accidental pill ingestions

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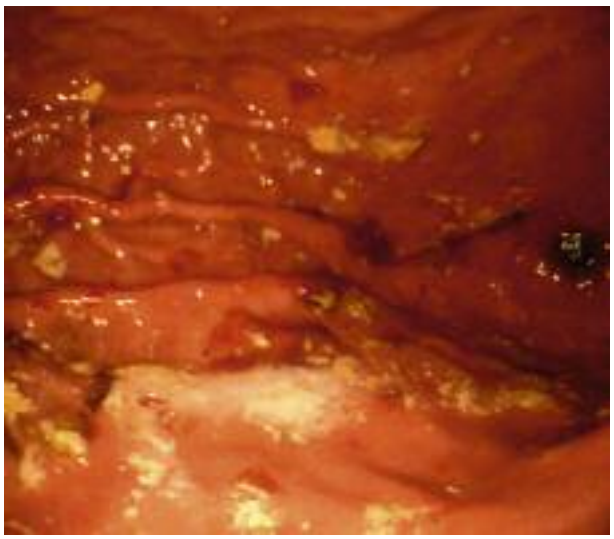
To the Editor,

Iron pills are typically prescribed for pregnant females or children. Very few reports exist regarding acute iron ingestion in adults. Management of acute iron ingestion in adults is not well described. A twenty one year old, healthy man presented to the emergency room one hour after ingestion of approximately thirty 325 mg ferrous sulfate tablets with suicidal intent. After initial assessment, abdominal plain film showed a conglomerate of iron tablets in the gastric fundus. Laboratory tests were significant for an elevated serum iron level of 246 µg/dL (49-181 µg/dL), and an iron saturation of 82% (13-59%). Extensive gastric lavage was performed in the emergency room with the aim to evacuate the tablets. However, repeat abdominal plain film showed persistent presence of iron tablets in gastric fundus. Repeat serum iron level was 271 µg/dL. Severe corrosive risks of iron intoxication to the gastrointestinal mucosa, as well as the potential fatal risks of systemic iron overdose prompted us to proceed with endoscopy directed gastric lavage. Under conscious sedation, upper gastrointestinal endoscopy was performed. The evaluation of the stomach showed diffuse hemorrhagic gastritis with friable mucosa. There was a large amalgam of iron pills in the gastric fundus. After the placement of an over-tube a Roth-Net basket was used to retrieve some of the iron pills. A biopsy forceps was used to breakdown the remaining pills, followed by generous irrigation and suction. Repeat abdominal films showed complete evacuation of iron from the stomach and absence of passage of any tablets into the small bowel. Repeat iron levels normalized at 129 µg/dL.

Iron overdose typically occurs in children younger than five years of age (1). Most of the iron toxicity involves injury to the intestinal mucosa due to corrosive toxicity and to the liver due to cellular toxicity (mitochondrial dysfunction, which can result in cellular death). Other organs could also suffer from the cellular injury such as the kidneys, heart, blood and lungs (2). Early symptoms may include abdominal pain, nausea, vomiting, diarrhea and gastrointestinal hemorrhage. Toxicity can lead to hypo perfusion and acidosis, seizures and coma could develop. Hepatotoxicity with a serum iron level as low as 340 µg/dL has been reported (3). Gastric lavage may remove iron from the stomach. It should be performed within the first few hours



after ingestion or as long as iron tablets are visible on abdominal x-ray. We suggest using an overtube for purposes of pill extraction with a Roth-Nett due to the risks of aspiration. The gelatinous transformation of iron tablets after ingestion may render the gastric lavage process difficult and inefficient.

Activated charcoal does not bind iron and is not recommended in isolated iron intoxication. Bowel irrigation with a polyethylene glycol solution for an accelerated gastrointestinal passage could be beneficial. It is mostly recommended when the abdominal film reveals pills beyond the pylorus (5). Chelation therpy with Deferoxamine has been advocated for severe acute iron ingestion to reduce the serum iron levels, prevent complications, and reduce morbidity (4). In our case, despite the aggressive initial gastric lavage, iron pills were retained in the gastric fundus. This radiological finding, as well as the short delay from the time of ingestion to presentation to the emergency room in less than 4 hours, prompted us to consider endoscopy directed gastric

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lavage of the fundus for the evacuation of the remaining iron tablets.

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