

TOXICOLOGY - II

CORROSIVE INGESTION

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Abstract: *Ingestion of caustic agents leading to corrosive esophageal and gastric injury, is a common situation faced in the pediatric emergency department. The nature of the agent ingested (acid/alkali), the physical form (liquid/solid) and the quantity consumed determine the extent of the injury. Liquid agents cause diffuse injuries, whereas solid agents lead to focal injuries secondary to prolonged contact time. Majority of the the ingestions occur at home as the causative agents are stored in bottles used for drinking water, soft drinks etc., and other containers without child proof seals, kept within the reach of children. Management involves a good history of caustic ingestion, whether symptomatic or not and if there is ingestion of a substance with a high caustic index then upper gastrointestinal endoscopy is done within 12 to 48 hours of ingestion for grading the injury. This is followed by nasogastric tube insertion, antibiotics and follow up. If found sick with evidence of perforation emergency sugery must be done. Radiological imaging is very useful for diagnosing perforation, aspiration pneumonia, long term sequaleae and also in button battery ingestion which can result in mucosal injury within one hour and also if the diameter is more than 20mm. Endoscopic removal is preferred but in cases of tight impaction, thoracoscopic removal with oesophageal reconstruction may be needed.*

Keywords: *Corrosive injuries, Acid, Alkali, Button battery.*

Points to Remember

- *Accidental ingestion of corrosive acid or alkali results in gastric or esophageal injury.*
- *Alkaline agents with pH above 11.5 to 12.5 tend to cause injury by liquefaction necrosis, disruption of proteins and fats leads to mucosal disintegration, deeper penetration and eventually perforation of esophagus.*
- *Acidic agents with a pH below two cause coagulative necrosis, eschar formation due to protein coagulation which protects against deeper tissue involvement.*
- *Inducing vomiting, gastric lavage, neutralizing fluids and activated charcoal not indicated in corrosive ingestion.*
- *Esophago-gastroduodenoscopy is the gold standard in establishing oesophageal injury.*
- *Serious mucosal injury can occur in as quickly as 2 hours following button battery ingestion.*
- *Oral honey 10 ml every 10 minutes up to six doses is recommended while the child is shifted to a higher centre for emergency endoscopic removal and of course it cannot replace removal of button battery.*

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