Endoscopy may not be necessary in asymptomatic children after caustic ingestion

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A new study from researchers in Italy reports that endoscopy may not be necessary in children who show no symptoms after a caustic ingestion. The results demonstrated that the incidence of severe abnormalities of the esophagus in children without any early symptoms is very low and an endoscopy could be avoided. The study appears in the September issue of *GIE: Gastrointestinal Endoscopy*, the monthly peer-reviewed scientific journal of the American Society for Gastrointestinal Endoscopy (ASGE).

In the pediatric population, the ingestion of caustic substances remains a difficult problem to assess because of the unclear relationship between signs and symptoms, and the extent of esophageal damage. The most efficient method for assessing the upper-gastrointestinal tract lining after a caustic ingestion is an upper endoscopy, or esophogogastroduodenoscopy (EGD). An important characteristic of cases of ingestion in the pediatric age group is that they are generally accidental, whereas in adolescents and adults, the substance was usually deliberately ingested.

"Whether or not an urgent endoscopy should be performed on children after a caustic ingestion is still a matter of debate, particularly in asymptomatic patients," said study lead author Pietro Betalli, MD, University of Padova, Padova, Italy. "Our study looked to determine if the symptoms at presentation can predict the presence of esophageal lesions. We found that the risk of severe damage increased proportionally with the number of signs and symptoms, indicating that

an endoscopy should always be performed in symptomatic patients."

The multicenter observational study was conducted from January 2005 to January 2007 at hospitals in 10 Italian cities. A total of 162 children, mostly infants and toddlers, who were seen at the emergency center for caustic substance ingestion were enrolled. All cases involved accidental ingestion. An EGD was performed in children younger than 15 years old within 12 to 24 hours from the ingestion. A form was completed for each child in the emergency department by a trained pediatrician who collected information on the patient, the substance involved, and signs and symptoms. Signs and symptoms were graded as minor (oral and/or oropharyngeal lesions, and vomiting) or major (dyspnea, dysphagia, drooling, and hematemesis).

In every EGD, the esophagus, stomach and duodenum were thoroughly examined. Pediatric endoscopes were used and the procedures were performed by experienced endoscopists. Endoscopy reports were reviewed and graded for severity of esophageal injuries by a physician blinded to the initial symptoms using an endoscopic classification system for esophageal burns.

Mild esophageal lesions (e.g., redness) were identified at the time of EGD in 88 percent of children. Severe lesions (third degree such as ulcers or necrosis) were seen in 12 percent of the cases. Furthermore, nine patients had gastric ulcers with all nine also having esophageal abnormalities on the EGD. Children without any signs or symptoms after an ingestion were much less likely to develop significant endoscopic findings than those who had at least three signs or symptoms (odds ratio of 0.13 v. 11.97, respectively). Of those with signs or symptoms, major complaints were more likely than minor complaints to predict esophageal damage. Severe esophageal damage at endoscopy predicted the eventual development of an esophageal stricture (14 out of 19 children).

Researchers concluded that the likelihood of finding severe esophageal damage in patients without any early signs and symptoms was very low, therefore an endoscopy could be avoided. The specific risk of the presence of third-degree lesions rises progressively with increasing numbers of signs and symptoms. The presence of three or more symptoms is an important predictor of esophageal lesions. The study notes that an endoscopy is warranted in all symptomatic children.

Source: American Society for Gastrointestinal Endoscopy