



CORROSIVE INJURY PROFILE IN A TERTIARY CARE CENTRE

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**ABSTRACT**

**Aim** :i.To assess the severity of corrosive injury and grade of corrosive injury. ii.To assess the site of injury. **Materials and methods**: Retrospective study .Data collected for period of 7 years from 2007 to 2012 in department of Medical gastroenterology, Govt Rajiv Gandhi general hospital; and Madras Medical college, Chennai. 227 patients were subjected for upper gastrointestinal endoscopy following ingestion of a corrosive in our institution from 2007 till 2012. **Results**: Two thirds of the patients had both gastric and esophageal injury. The age of the patients ranged from 4 years to 65 years with a overall slight preponderance of females over males . Grade 1 injury was more common in stomach than esophagus. Esophagus was found to be normal in 44% of cases. Corrosive injury is most commonly seen in the age group of 18-30 years. Females in the age group of < 30 years had more suicidal tendency than males. Males had a higher incidence beyond the age of 30 years. Injury more than Grade 2a in esophagus is 24%. Injury more than Grade 2a in stomach is 19%. **Conclusion**: Our study infer that early upper gastro duodenal scopy is helpful in grading of corrosive injury. Significant injury due to corrosives occur predominantly in esophagus.

**KEYWORDS** : Tertiary care centre, Madras Medical college; \*Corresponding author email: drsenthilvadivu1974@gmail.com

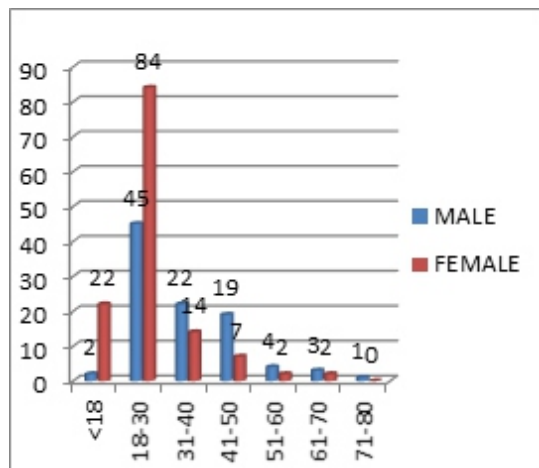
**INTRODUCTION:** Corrosive injury is one of the most important public health problems in India and worldwide in spite of various education and regulatory measures to reduce its occurrence. Caustic ingestion is a serious medical problem with a variety of clinical presentations and a complicated clinical course. In India corrosive injury in adults is suicidal in almost 95% of cases due to a variety of reasons. Adults tend to develop severe injury because of intake of large amounts of caustics. Both acid and alkali agents are consumed. Ingestion of acids is encountered more often in developing countries and lye or alkaline corrosives are more frequent in developed countries<sup>1</sup>. The relative extent of gastrointestinal involvement depends on the nature of the corrosive ingested. Acids affect the stomach more commonly than alkalis<sup>2</sup>. Mucosal damage by acid is caused by coagulation necrosis, and require a longer duration of contact with the mucosa<sup>3</sup>. Acids are cleared rapidly from the esophagus to the stomach where they pool in the prepyloric area due to corrosive-induced pylorospasm<sup>4,5,6</sup>. Prolonged contact with the mucosa results in stricture, as a long term complication. Strictures can occur in the antrum, body, or in the pyloroduodenal area, but most commonly in pre-pyloric region. The entire stomach gets scarred leading to a diffusely contracted stomach, when the ingested corrosive is large in quantity. Alkali solutions are often odorless and tasteless<sup>7</sup>. Mucosal damage by alkali is by liquefaction necrosis<sup>3</sup>, which is more viscous, and tend to adhere to the esophageal mucosa with only a small amount reaching the stomach. The extent of esophageal damage is more with alkalis than acids. The spectrum of acute gastric injury due to corrosives can vary from partial or total gastric mucosal or transmural necrosis of different types. Hence the analysis of the corrosive injury encountered in a tertiary care centre will useful in planning of prevention, management and rehabilitation of the such cases.

**Aim of study:**

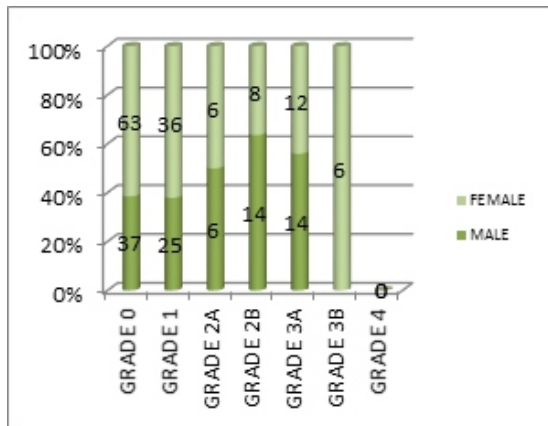
1.To assess the severity of corrosive injury and grade of corrosive injury. 2.To assess the site of injury. **Materials and methods:** This is a retrospective study .Data collected for a period of 7 years from 2007 to 2012. 227 patients following ingestion of a corrosive were subjected for upper gastrointestinal endoscopy within 48 hours in the department of Medical gastroenterology, Government Rajiv

Gandhi General Hospital, and Madras Medical college from 2007 till 2012. The data of these patients were analyzed according to the age, grade of the corrosive injury and site of the injury. **Results:** Two thirds of the patients had both gastric and esophageal injury. The age of the patients ranged from 4 years to 65 years with a overall slight preponderance of female over males .Female:131(57.7%) cases. Male :96cases. 24 cases(10.5%) were below 18years. Grade 1 injury more common in stomach than esophagus. Females less than 30 years had a more suicidal tendency. Grade 1 was the most common injury in both men and women. More prevalence of corrosive injury in men beyond age of 30 years. Esophagus appeared normal in 44% of cases. Corrosive injury is most commonly seen in the age group of 18-30 years. Injury greater than Grade 2a esophagus was seen in 24% of cases. Injury greater than Grade 2a in stomach was seen in 19% of cases. Significant corrosive injury is predominant in esophagus when compared with that of Stomach.

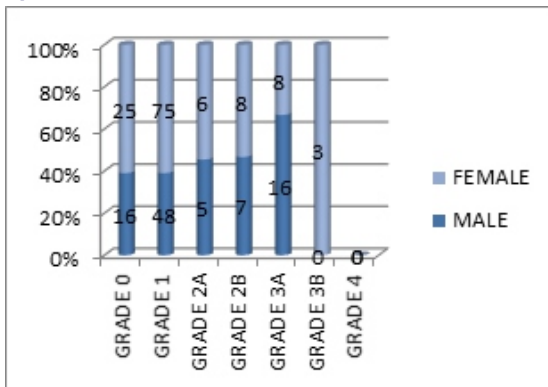
**Graph:1.AGEDISTRIBUTION**



**Graph:2.GRADING OF ESOPHAGEAL INJURY**



Graph.3.GRADING OF GASTRIC INJURY



**DISCUSSION:** Corrosive injuries of the gastrointestinal tract are frequent causes of hospitalization in countries like India<sup>1</sup>. Both accidental ingestion due to careless storing of chemicals and ingestion with suicidal intent due to free availability of the caustic agents in the market contribute to their occurrence. The majority of the corrosive injuries in India are due to acids, in contrast to most reported series where alkalis are the most common agent. The most common acids implicated are bathroom cleaning acid (concentrated hydrochloric acid Rao et al observed 2% of the pediatric age group had corrosive injury<sup>8</sup>. Our study showed that 10.5% cases of pediatric age group was affected. Ananthakrishnan et al stated that 55% of males were affected in their study<sup>9</sup>. Our study showed that 42.3% males were affected. This retrospective study from our hospital database which is one of the largest series of corrosive injury presents a single center experience of 7 years of corrosive injuries of 227 patients emphasizing the spectrum of injuries and the extent of involvement and thereby adopting the possible modes of management. **CONCLUSION:** From this study we infer that early upper gastroduodenal scopy is helpful in grading of corrosive injury and significant corrosive injury occurs predominantly in esophagus.

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