

## Suicide by Harpic Consumption – A Case Report

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### Abstract

Deaths due to consumption of corrosive poisons are common. The agents used for that purpose vary geographically. Even though Harpic as a toilet cleaner is one of the commonest household agents, death due to its consumption solely is a very rare event reported in India and globally as well. Here is a case of death due to consumption of Harpic with c/o pain abdomen to a tertiary care hospital and later brought to our mortuary for medicolegal autopsy. At autopsy a 51 years old male, moderately built and nourished. On dissection, Abdomen – peritoneal cavity contained blackish fluid like substance of 855ml. Stomach outer and inner surfaces stained with blackish peculiar smelling fluid. The lower portion of the stomach showed a tear. Mesenteric fat pad, liver and spleen are blackish discolored. FSL qualitatively detected presence of Hydrochloric Acid in stomach and portion of small intestine. Histomorphological appearance of liver showed subcapsular hemorrhage, ballooning degeneration, sinusoidal dilation, proliferated bile ductules. Stomach showed hemorrhagic necrosis. Cause of death was “shock as a result of peritonitis due to hollow viscous perforation consequent upon ingestion of substance containing hydrochloric acid (harpic)”.

**Keywords:** Harpic, Corrosive, Suicide, Histopathology, Qualitative estimation.

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### Introduction:

Suicides due to consumption of extraneous agents as poisons are common in India. NCRB 2019 reports suicidal deaths due to insecticides as 23976 deaths and 11633 deaths due to other poisons.<sup>1</sup> Though not specified by such statistics about deaths due to corrosive substance consumption, those are known to occur. Deaths due to consumption of “Harpic” is a very rare circumstance globally. Hereby discussing one such case of death rarely encountered due to consumption of harpic substance by suicidal intent.

### Case Report:

A 51 years old male deceased, known diabetic and hypertensive was brought with history of consumption of Harpic substance for medico-legal autopsy. Death had occurred within 24 hours of consumption of the said agent.

At autopsy, moderately built and nourished male, with rigor mortis present in all the limbs and post-mortem staining present over back of the body, not fixed. Medical intervention marks in the form of intravenous injection marks were present at left side root of neck and left groin.

Abdomen – peritoneal cavity contained blackish fluid like substance of 855ml. Stomach outer and inner surfaces stained with blackish peculiar smelling fluid (Fig 1). The anterior surface of lower portion of the stomach showed the perforation. Mesenteric fat pad, liver and spleen are blackish discoloured, (Fig 2 a & b). Other organs were congested.

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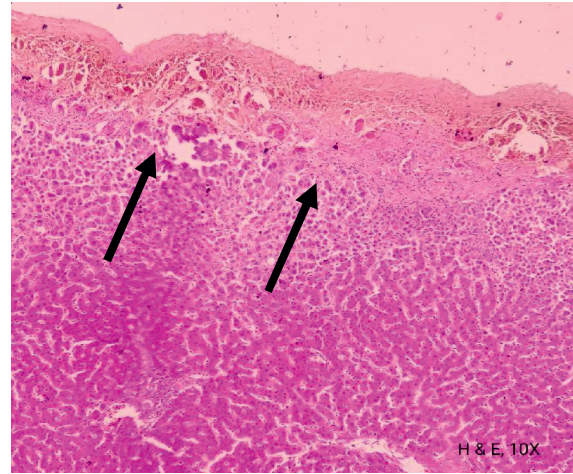
**Figure No. 1: Stomach outer and inner surfaces stained with blackish peculiar smelling fluid**



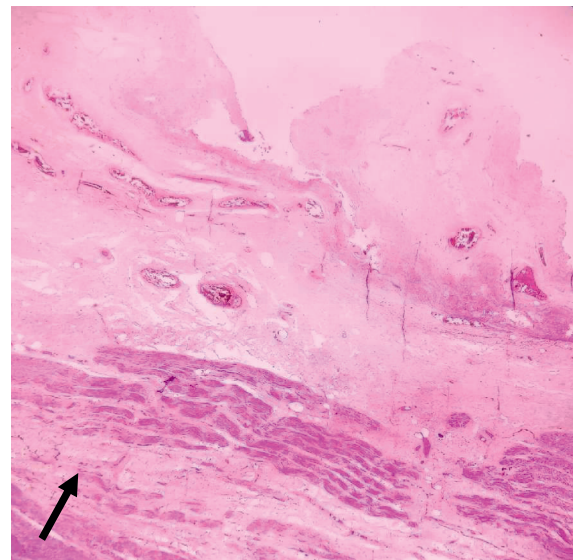
**Fig 2: Lower portion of the stomach with the tear (a); Blackish discolouration seen in mesenteric fat pad, liver and spleen (b).**



**Fig 4: Liver showing subcapsular haemorrhage, ballooning degeneration, sinusoidal dilation and proliferated bile ductules**



**Fig 5: Stomach showing haemorrhagic necrosis**



Histopathological examination of Liver showed subcapsular haemorrhage, ballooning degeneration, sinusoidal dilation and proliferated bile ductules (Fig 4). Stomach showed haemorrhagic necrosis (Fig 5).

#### **Discussion:**

Corrosive injuries of the stomach and oesophagus are not infrequent causes of hospitalization in countries like India. The majority of the corrosive injuries in India are due to acids. The most common acids implicated are bathroom cleaning acid



(concentrated hydrochloric acid) and aqua regia.<sup>2</sup> The most common presentation of an acute corrosive gastric burn is with abdominal pain, vomiting, and hematemesis.<sup>3</sup> Endoscopic evaluation has been advised as soon as possible after corrosive ingestion, since it is believed that the risk of perforation is lowest at this point.<sup>4</sup> However the visualization may be difficult because of severe haemorrhagic reaction. In this case the individual presented with severe pain abdomen and intractable vomiting.

A Study of Profile of Poisoning cases done to know the morbidity and mortality due to poisoning, revealed 3 cases consumed toilet cleaning agents (Harpic, Bleaching powder, Phenol) out of 150 cases. Mortality was 0%.<sup>5</sup> In a prospective study done on 16 patients with corrosive acid consumption, 03 cases had consumed Hydrochloric acid – grade III injury that led to complications.<sup>6</sup>

#### **Few case reports published were as follows:**

A 20 years old male with history of suicidal ingestion of Harpic presented with c/o severe abdominal pain, signs of peritonitis. Exploratory laparotomy done showed presence of gastric fundus gangrene with total sparing of rest of the stomach and intestines. Surgical wedge resection was done resulting in complete recovery of the individual.<sup>7</sup>

A 25 years old female with h/o toilet cleaner poison died after 4 days of hospital stay. Features of corrosive gastritis and chemical peritonitis due to multiple full thick perforation of the stomach wall was seen in her.<sup>8</sup>

A 52 years old male with h/o suicide by consumption of domestic floor cleaning material. There was stomach wall thinning, softening and friability with congestion, erosion and inflammation of gastric mucosa. There was corrosion of oral cavity and pharynx, oesophagus as well.<sup>9</sup>

Unlike other cases, in this case oral mucosa and oesophagus were spared, but showed features of corrosive gastritis and chemical

peritonitis who died within 6 hours of hospital treatment. In our autopsy though quantitative estimation was not done due to some technical errors, qualitative analysis showed the presence of hydrochloric acid. Though a published article mandates quantitative estimation as confirmatory evidence of oral ingestion of HCl<sup>10</sup>, based on the clinical case findings, autopsy findings and available FSL report, opinion was given as '*Death due to "shock" as a result of peritonitis consequent upon consumption of substance containing Hydrochloric acid*'

#### **Conclusion:**

Morbidity due to hydrochloric acid consumption is known to have occurred by consumption of toilet cleaning agents. Mortality, though rare have been reported due to suicidal consumption. Early intervention of treating the fatal complication (i.e., hollow viscous perforation) of the hydrochloric acid consumption, could save the life of an individual.

#### **Conflict of Interest:** None

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