



Figure 2. Proposed algorithm for foreign body ingestion management based on the latest ESGE and ASGE guidelines.

range of agents for domestic and industrial use, in the form of household cleaners, anti-rust agents, bleach, deodorants, batteries etc. [12,13]. Table 2 summarises the most common caustic substances encountered [13,26]. Frequently, the term corrosive is used as a synonym of caustic, although the first implies degradation, which is not always the case with caustic ingestion [13]. Nevertheless, in this review the two terms will be used interchangeably, for facilitation reasons.

According to the 2021 annual report of the American Association of Poison Control Center, there were nearly 50,000 cases of exposure to chemicals (acids: 7,325, alkalis: 3,471) and approximately 189,000 cases of household cleaning substances exposures. A significant number of these cases occurred by ingestion. The same report stated that in 2020 and 2021, household cleaning substances were the second most frequently consumed chemicals, both in adults and children [23].

Among the most common substances ingested in western countries, alkalis account for 79% of the total [8,12]. On the contrary, acid ingestion is more common in Asian regions like Iran, where hydrochloric acid is the most frequent cause of intentional ingestion [8]. The distinction between acids and alkalis is based on the pH (Potential of Hydrogen) of the corrosive agent.

Children aged five years or less represent the major-

Table 2. Common caustic substances and their commercial application.

Chemical substance	Commercial Application
Acids	
<i>Hydrochloric acid</i>	Metal and toilet bowl cleaners, solvents, anti-rust compounds
<i>Sulfuric acid</i>	Drain cleaners, batteries, metal plating
<i>Acetic acid</i>	Photographic stop bath, permanent wave neutralisers
<i>Phosphoric acid</i>	Toilet cleaners, anti-rust compounds
<i>Oxalic acid</i>	Household bleach, metal polish, disinfectants, furniture refinisher
<i>Formic acid, formaldehyde</i>	Deodorants, plastic menders
Alkalis	
<i>Potassium hydroxide or sodium hydroxide (lye)</i>	Oven cleaner, soaps, hair products
<i>Ammonia/Ammonium hydroxide</i>	Household cleaners (glass cleaners, floor stripes, wax removers)
<i>Sodium hypochlorite</i>	Cleaners, bleaches, swimming pool chlorinator