

A rare case of corrosive acid ingestion-induced distorted airway

Dear Editor,

Accidental ingestion of corrosive agents is not uncommon.^[1] The severity of gastrointestinal tract burn depends upon the type, form, quantity, and concentration of the ingested corrosive acid agents. Delayed complications include upper airway stenosis, esophageal stricture, and aspiration syndromes.^[2] Early and adequate airway management are of paramount importance in the emergency management of such patients.

A 28-year-old man weighing 74 kg with a history of accidental ingestion of 30–40 ml of sulfuric acid 6 months back. The

initial burn injury involved the mid-face, internal nostrils, columella region, and medial canthus of the left eye, upper lip, and left commissure. The patient was planned for the reconstruction of bilateral nasal atresia under general anesthesia. Preoperative endoscopic examination showed narrowing of the oral cavity above the cricopharynx along with fibrotic bands in the oropharynx, and scarred epiglottis with bilateral mobile vocal cords. Airway assessment revealed mouth opening of 3.5 cm with deviation toward the right side, with Mallampati classification of class III, and normal neck extension. Barium swallow revealed benign stricture in the mid-thoracic esophagus. All investigations were within normal limits. The patient was planned for awake fiberoptic intubation in view of an anticipated difficult airway. Under sedation, we performed a check laryngoscopy, which revealed nil visualization beyond the posterior margin of the tongue. Vallecula and epiglottis were not visible [Figure 1]. While



Figure 1: Both the views are taken from the fiberoptic. The left picture shows a visible blind-end aperture and the right one shows an aperture with the vocal cords

advancing with fiberoptic intubation, only a single opening was visible, and the same was not identifiable as the surrounding structures were misleading [Figure 1]. The first attempt resulted in esophageal intubation. During the second attempt, on visualization by fiberoptic, it was noticed that the first opening, which was visible during laryngoscopy was neither the esophageal opening nor the tracheal opening. Significant distortion was evident with further advancement. With external maneuver for ensuring proper alignment and further blind advancement, the vocal cords were visualized. The patient was intubated with a 7-mm polyvinyl chloride endotracheal tube and ventilated on volume control ventilation mode. The surgery went for 2 h with an uneventful intraoperative period. The patient was extubated in a fully awake state.

The airway gets compromised in both the early phase as well as the late phase of acid ingestion injury. There was a study on acid ingestion in pediatric population, in which a case of caustic soda poisoning causing fusion of posterior part of the tongue to the palate due to which only a small aperture was visible, which was quite similar to the presentation we saw.^[3] There was another case report in which the epiglottis was bulky due to the acid ingestion, and the vocal cords were not visible. In that case, they performed a check laryngoscopy before proceeding with intubation by video laryngoscopy.^[4] In our case, the issue was the distorted anatomy of the upper airway, which resulted in difficult intubation, despite normal mouth opening and normal neck extension.

To conclude, the anesthesiologist should have a high index of suspicion for the likelihood of difficult intubation and 'cannot intubate, cannot oxygenate' scenarios in patients with corrosive injury, which can lead to rapid desaturation of the patient. One should always be ready with the difficult airway cart, videolaryngoscope, and fiberoptic intubation in all cases of corrosive injury to the airway, irrespective of whether it is predicted via the normal markers of the same.

Declaration of patient consent

The authors certify that they have obtained all appropriate patient consent forms. In the form the patient(s) has/have

given his/her/their consent for his/her/their images and other clinical information to be reported in the journal. The patients understand that their names and initials will not be published and due efforts will be made to conceal their identity, but anonymity cannot be guaranteed.

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Conflicts of interest

There are no conflicts of interest.

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