

## Death by accidental bolus impaction of the larynx: A case report

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### Abstract

A 33-year-old man was found dead inside the bathroom of his house. He was a known alcoholic and was separated from his wife. He had had his dinner about half an hour before his death along with his friend. The face and neck of the deceased was bluish in colour with food particles mixed with mucous sticking around his mouth and cheek. A contusion of size 4×2cm was present on the right side frontal eminence of forehead He had allegedly been asphyxiated by a food bolus. The case, though not rare, is an important entity to mention.

**Key Words:** Asphyxia, Bolus, Larynx, Choking, Alcohol

### Case description

A 33 years old man was found unconscious in the bathroom of his house at about 8.00pm. A water bottle was found in his right hand. Food particles mixed with mucous were sticking around his mouth and cheek. He was immediately taken to casualty where he was declared dead on arrival at about 8.30pm. His relatives however claimed it to be a murder as there was a contusion on right side of the forehead. The body was brought to mortuary by police for autopsy to determine the cause of death. On investigation by police, the deceased was found to have been married about three years back, but he had been living alone for the last three months, because his wife had left him due to his compulsive drinking. On the fateful day he went to his wife's house to bring her back but his efforts went in vain. He was very much upset over this issue. His brother and he discussed this issue while consuming alcohol together at the deceased's house. The brother left the place at 6.30pm for some work and when he returned he was shocked to see his brother lying unconscious in the bathroom. The left over dinner and half a bottle of liquor was found in the room. The deceased was a known alcoholic. He was alone in his house at the time of incidence. No other significant medical history of illness was present.

### Autopsy findings

Body was that of a 33-yrs-old, moderately built male. Rigor mortis was present all over the body. Postmortem staining was present on back and dependent parts of the body except pressure points. Face was congested. Bluish discoloration was present over the nail beds of all toes and fingers. Blood stained fluid was seen oozing out from mouth and nostrils. A fresh contusion of size 4×2cm

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Fig. 2



was present on right side frontal eminence of forehead (Fig.1). No other external injury was present over the body. Internally, all organs were deeply congested. Stomach contained 300cc of semi-digested food. A strong alcoholic smell was emitting from the stomach content. Stomach mucosa was congested. Heart was normal in size and weight. All coronary arteries were patent. Scalp and skull did not show any fracture or haematoma. On dissection of upper respiratory tract a bolus of chewed food material of size 3×3cm and weighing 25gms was found stuck in the laryngeal opening. On close examination of larynx, the food bolus, which was stuck, was found to be extending till upper third of thyroid cartilage from inside. Mucosa of epiglottis, larynx and trachea was congested and edematous. Thick mucus was present all along the respiratory tract (Fig.2) Qualitative examination of blood showed presence of alcohol.

## Discussion

The term choking refers to blockage of airways from within, usually between the pharynx and bifurcation of trachea<sup>1</sup>. It is usually due to the inhalation of a foreign body. Death by choking is commonly an accident but occasionally it may be homicidal or even suicidal. The kind of foreign body inhaled may be one of a wide range, which includes food, collar studs, fruit stones, screw, pins or even partial dentures. The usual mechanism of asphyxia in choking is simple mechanical obstruction; occasionally, however, the entry of foreign material may cause sudden death from vagal inhibition.<sup>2</sup>

In a study by Derya Azmak<sup>3</sup> in 2006 choking and aspiration deaths constituted 2.9% of all asphyxial deaths. All the cases were accidental in manner and caused due to food items. Cetin et. al.<sup>4</sup> has reported that most choking cases (59%) in Istanbul were in children aged between 8 months and 15 years and caused with food items such as dry beans, cherry seeds, chickpeas, sunflower seeds, a piece of carrot, and grapes.

Fig. 2



Bonte W, Jacob B<sup>5</sup> in their study have reported on 78 cases of fatal choking observed in the Institute of Legal Medicine, University of Duesseldorf, since 1947. The age median of all victims was 53 years. There were 24 females among the victims. Only in one child a solitary occlusion of the glottis by a collar-button was found. In all other cases bolus material was distributed over more than one region, e.g. larynx, glottis and trachea. The predisposing factors for choking are alcohol consumption, old age, poor dentition, chronic disease, sedation, and eating risky foods<sup>6</sup>.

Mittleman and Wetli <sup>7</sup> have in their study noted that old age, poor dentition, sedative drugs, and natural diseases, particularly Parkinson's disease, were

frequent predisposing factors for foreign body airway obstruction, also known as the "café coronary." Berzlanovich et al.<sup>8</sup> noted that food or foreign body aspiration in the elderly was characterized by a significantly higher asphyxiation on soft or slick foods. This was contrasted by the younger individuals, who choked more often on large pieces of foreign material and showed a higher rate of blood alcohol concentration.

Pinheiro J et.al. reported a case of death due to choking of a healthy fisherman, who put a type of live sole between his jaws to free up his hands so that he could collect more fish to put into his basket, is described. The fish squirmed into the larynx and upper trachea causing instantaneous death.<sup>9</sup>

In our case, the deceased was having dinner while he was under the influence of alcohol. He had accidentally inhaled the bolus of food while having dinner, which got stuck in the laryngeal opening, causing death due to asphyxia.

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