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Case Report

Café coronary – A lot can happen with a piece of meat

Narayanan S[1], Ramalingam S[2]*, Krishnakumar[1], Palani D[1]

[1]Dept. of Forensic Medicine, Stanley Medical College, Chennai, Tamil Nadu, India.
[2]Institute of Forensic Medicine, Madras Medical College, Chennai, Tamil Nadu, India.

Abstract

Café coronary syndrome – A term that describes a sudden collapse of an apparently healthy individual during a course of meals. There will be no signs of asphyxia or respiratory distress. Risk factors include extremes of age, poor dentition, inebriant state, neuro-muscular disorders, and psychiatric disorders. One of the main problems with this syndrome is that, even when being witnessed, it is often confused with myocardial infarction due to the absence of asphyxial symptoms. In such cases, a meticulous autopsy is required to clinch the cause of death. This is a case report of a brought dead male in his mid-forties. As per the history given by his acquaintance, he was having his meal along with alcohol. All of a sudden, the victim collapsed and was immediately shifted to our hospital casualty where he was declared dead. Sudden collapse during or shortly after a meal should always raise the possibility of café coronary in the mind of the autopsy surgeon and the autopsy examination should not only attempt to demonstrate the obstruction but also rule out other causes.

Keywords: Sudden death, Asphyxia, Café coronary, Alcohol.

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1. Introduction

Café coronary is a form a condition in which a healthy person who begins a meal, suddenly collapses and dies without any further distress.[1] It occurs always in association with food and the victim is usually drunk. The term "Cafe coronary" was coined by Haugen in 1963 for sudden and unexpected death occurring during a meal due to accidental occlusion of the airway by food. Predisposing factors.[1-2] include the middle or elderly age group with a state of gross inebriation due to alcohol or sedative drugs, and drugs interfering with the swallowing mechanism like anticholinergics and anti-dopaminergic drugs. The drugs per-se will not cause café coronary, however considering the age factor they are a dreadful combination. Medical conditions like Parkinson's disease and other neuro-muscular dysfunctions also play an important role in predisposing an individual to this condition. Food-thumping is also a problem in people with poor dentition like children or old individuals (crèche coronary).[3] The overall incidence of café coronary is 0.66 per 1 lakh population[3] with a peak incidence of 10-14 per 1 lakh population[3] in the 7th to 8th decade. Female preponderance is on the higher side when compared to males (1.6:1). The term "Café coronary" is misleading as suddenness, and rapid death usually suggest an acute heart attack. The triggering event in such a condition is the presence of food material in the internal airways, usually between the pharynx and the bifurcation of the traceha.[4]

2. Case Report

A 40-year-old male, semi-skilled labourer by profession, who after completing his day-to-day work decided to have booze along with his friends, He also prepared a good non-vegetarian meal to eat with alcohol. When booze and meal were going on simultaneously, it was alleged that he caught his neck and collapsed without any signs of respiration. His friends gave him First aid but it was of no use and hence brought him to Stanley Medical College casualty, but was declared dead on arrival by the EMO. The body was shifted to the mortuary of Stanley Medical College and a case was

*Corresponding author: Ramalingam S
Email: ramssurgeon@gmail.com

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registered under Sec. 196 (BNSS). After an inquest by the police authorities, a request for conducting a Medico-legal autopsy was given.

External appearance was of a well-built and well-nourished male dead body with bluish discoloration of nail beds of all fingers and toes, post-mortem hypostasis fixed on the back with areas of contact pallor, cornea – hazy, both the pupils fixed and dilated, frothy blood at the nostrils and food particles oozed out from the right side of angle of mouth (**Figure 1**); with no external injuries seen anywhere on the body.

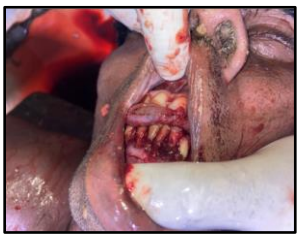

Figure 1: Food particles oozed out from the right side of the angle of the mouth

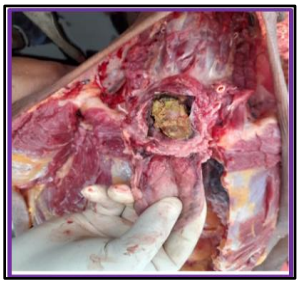

Figure 2: Food particle in glottis

Figure 3: After removal of impacted food bolus

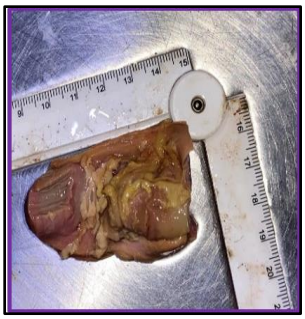

Figure 4: Removed food bolus

2.1. Internal examination showed

Scalp, vault, duramater, and base of the skull: Intact; Brain: Oedematous, surface vessels congested; cut section: Normal. Heart: Normal in size; cut section: All chambers contained fluid and clotted blood; Valves: Normal; both the coronary ostia: Patent; Great vessels: Multiple raised atheromatous plaques on the inner surface of the root of the aorta.

Lungs: Normal in size; cut section: Congested.
Larynx & Trachea: Intact and contained multiple food particles of varying dimensions, the largest one measuring 6 x 4 x 1.5 cm brown colour undigested food particle obstructing the glottis; (**Figure 2**, **Figure 3**, **Figure 4**) Hyoid Bone and other cartilages: Intact.

Stomach: Contained 150 grams of white brown undigested food particles with a fruity smell; Mucosa: Patchy areas of congestion.
Pancreas, Liver, Spleen, and Kidneys: Normal in size; cut section: Congested.
Bladder: Intact and Empty.
Ribs, Pelvis & Spinal column: Intact.

Multiple, muscle-deep incisions were made all over the body; no external or internal injuries were noted anywhere on the body including the oral cavity, ears, nostrils, anal canal, and male external genitalia.

Viscera was preserved and sent to the state forensic sciences laboratory for chemical analysis and tissue bits were preserved and sent for histopathological analysis. Opinion as to the cause of death was kept pending for want of these reports.

Histopathological examination showed myo-hypertrophy of the heart and focal emphysematous changes and congestion in lungs.

Toxicological analysis of viscera detected 235.0 mg of ethyl alcohol in the stomach, 138.0 mg of ethyl alcohol in the intestines and its contents, 161.0 mg of ethyl alcohol in the liver and kidney, and 166.0 mg% w/v of ethyl alcohol in the blood.

With all the above inferences opinion was given as death due to impaction of food material in the upper airway, probably due to reflex vagal inhibition.

3. Discussion

The first and foremost critical risk factor is poor or absent dentition followed by impaired swallowing and/or cough reflex due to neurological disease or intoxication from various substances, alcohol being the most typical, and then comes obesity.[5-6] The deceased person discussed here was moderately built person but presence of alcohol in his system has been proved.

The mechanism of sudden death in Café coronary has been debated. The most accepted mechanism is related to

reflex vagal inhibition causing cardiac arrest. It is produced by stimulating the superior laryngeal nerve by food particles in the respiratory passage. This explains the absence of asphyxial features here and rules out choking as to the cause of death. The findings of intense air hunger, gag reflex, and coughing are very prominent in choking. Some authors have also suggested the possibility of cardiac arrest accelerated by excess catecholamine release from adrenaline response.[7]

In contrast, death due to Café coronary is always accidental. Children's most expected age group is observed between 1-3 years due to incomplete dentition. Older people are more susceptible to Café coronary because of impaired swallowing reflexes and poor dentition or dentures.[4] Literature also suggests that the most familiar age groups so far affected are the 5th -7th decade of life with male preponderance[8-9] which is what have happened in the case discussed. In a study conducted by S.J. Hwang et al. revealed that the annual death rate because of food lodgement in psychiatric patients was 5.05 per 1,000 persons, which was 2.9 times higher than the general population.[10]

Several risk factors in people with mental illness are associated with poor eating habits, impaired dentition, co-morbid neurological diseases, dysphagia, aging, use of antipsychotics, and extrapyramidal syndromes.[9] Obesity has also been suggested as a potential risk factor associated with poor swallowing reflex and dysmotility of the esophagus, making them prone to the adverse event which was observed in the third case of the present series.[6]

Varied types of food materials with different consistencies are reported in the literature. Food can be found as a single bolus or multiple boluses in the lower airway. Nuts are the most typical food material among children,[7] while meat and meat products represent two-thirds of the bolus material. Wearers of dentures are at significantly higher risk.[8,11]

4. Conclusion

A sudden collapse at the time of having a meal should always raise suspicion of Café coronary syndrome. State of intoxication, improper dentition, and neuropsychiatric disorders still play an important precipitating factor. Demonstration of food material in the respiratory passage during an autopsy is important from a medicolegal point of view because of additional insurance benefits may be due to surviving relatives when death is accidental as opposed to natural.[12] A litmus paper test on the bolus determines the acidity will ascertain if the bolus originated from mouth or vomitus. Also to keep in mind, the fact that semisolid foods are a high-risk factor in elderly individuals, awareness could be a first step in reducing the incidence of food/foreign body asphyxia. A timely help by a blow on back, on the sternum, or application of pressure on abdomen (Heimlich manoeuvre) may cause coughing and expel the foreign body. Manoeuvring with fingers may also help if the foreign body is in hypopharynx. The Red Cross recommends a" five and five" approach to deliver first aid. Alternate between Five back blows followed by five abdominal thrusts will dislodge the block.[13]

5. Source of Funding

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6. Conflict of Interest

None.

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