

## Acute Blockage of the Esophagus by Food Bolus Impaction May Lead to Sudden Death

Othman Alfleesy

Department of Forensic Medicine and Pathology, Aden University, Aden city, South Yemen

\***Corresponding author:** Othman Alfleesy, Associate Professor of Forensic Medicine, Department of Forensic Medicine and Pathology, Aden University, Aden city, South Yemen; E-mail: [alfleesy2001@yahoo.com](mailto:alfleesy2001@yahoo.com)

### Abstract

Acute esophageal blockage by food bolus impaction is a common serious accidental condition that occurs in our daily life. These conditions represent a common and clinically significant problem among all people. The overall mortality rate is unknown as studies mentioned, despite deaths have been reported. Most of published articles were having insufficient information due to wrong explanation of these medical problems: (dysphagia) and (food bolus impaction). Physicians use dysphagia to represent difficulty in swallowing and motility disorders in esophagus as food bolus impaction, which is not right. Also, most scientists get difficulty to set boundaries between dysphagial symptoms and other health problem symptoms like: choking, swallowing foreign bodies. This misinterpretation of the term dysphagia led to confusion to physicians and medical students. This article reviews number of published articles dealing with this serious problem (acute esophageal blockage by food bolus impaction). The purpose of the present article is to focus mainly on acute esophageal blockage by food bolus impaction as an independent medical problem not carrying the same meaning and concept of dysphagia. Also my explanation is restricted to healthy esophagus only, not other esophagus having underlying diseases.

**Keywords:** *Esophagus; Bolus Impaction; Bolus Impaction*

**Received Date:** May 4, 2020; **Accepted Date:** May 21, 2020; **Published Date:** May 28, 2020

### Introduction

Acute esophageal food bolus blockage is a common serious accidental condition that occurs in our daily life. These conditions represent a common and clinically significant problem among all people [1]. Millions of people throughout the world have swallowing disorders. Swallowing problems may be an indication of serious medical conditions [2]. To the best of my knowledge through this brief review, only few articles discussed clinical cases of food bolus impaction - due to esophageal motility disorders - are described in the medical literature without discriminating the two health problems: (dysphagia) and motility disorder (food bolus blockage). There are many causes lead to difficulty in swallowing (dysphagia). The overall mortality rate is unknown as studies mentioned, despite deaths have been reported, while other scientists stated that a foreign body impaction (FBI) in the esophagus can be a serious condition with high mortality rate among children and adults [3]. The

**Citation:** Othman Alfleesy, Acute Blockage of the Esophagus by Food Bolus Impaction May Lead to Sudden Death. Int J Clin Med Info 2020; 3(1) 23-27.

estimated annual incidence rate of esophageal food impaction is 13 per 100.000 persons ranking third after upper and lower gastrointestinal bleeding [4].

Most of published articles were having insufficient information because of false explanation of these medical problems: (dysphagia) and (food bolus impaction). Physicians use the term dysphagia to express both: difficulty in swallowing and motility disorders in esophagus (food bolus impaction). Physicians did not determine to what stage (dysphagia) belongs: to oral stage or esophageal stage?. This misinterpretation of the term (dysphagia) led to confusion to physicians and medical students. Acute esophageal blockage by food bolus in literature was not expressing its original meaning in language. Also, the term dysphagia does not express the real status of impaction inside the esophagus, and the suffering of the patient. Also, it does not express the motility disorder and does not determine the site of food in esophagus. I have discovered that number of symptoms had been put by physicians were not present - at all - in the set of clinical picture of this accidental conditions (dysphagia or food bolus blockage). This article reviews number of published articles dealing with this serious problem (food bolus impaction). The purpose of the present article is to focus on acute esophageal blockage by food bolus impaction in healthy esophagus only, not due to a diseased esophagus. And to explain its definite clinical presentations, and criteria to discriminate it from dysphagia. Briefly dysphagia is not similar to food bolus blockage.

### **Definition**

**Dysphagia (Swallowing difficulty):** It is defined in dictionaries and literature as: the inability to swallow foods or liquids with ease. This might be caused by a number of health conditions and diseases.

**Odyphagia:** Having pain while swallowing, Being unable to swallow.

**Achalasia:** is a serious condition that affects the esophagus. It is a major exception to usual pattern of dysphagia in that swallowing of fluid tends to cause more difficulty than swallowing solids.

### **Discussion**

In this article we discuss for the first time the two medical conditions: dysphagia and acute esophageal food bolus impaction as two different entities. So, at the outset we have to differentiate between difficulty in voluntary swallowing of the food bolus in the mouth in the first step of eating process, and the difficulty in moving of the food bolus in esophagus during the second step of the involuntary process (peristalsis) in the esophageal lumen after passing the pharynx. On this basis, the terms (dysphagia) and food bolus blockage (impaction) will be discussed as two different terms having different meanings and concepts. Swallowing (deglutition) is the process in the human or animal body that allows for a food to pass from the mouth to the pharynx, and into the esophagus to reach the stomach. Oral swallowing is the first voluntary step, it is not similar to the (involuntary) peristalsis step of the esophageal lumen. The swallowing (eating) process was classified into: (a) oral stage, (b) pharyngeal stage, (c) esophageal stages, according to the location of the bolus. The oral stage (the propulsive) is voluntary, whereas the esophageal stages are involuntary stages (peristalsis). Pharynx is the transient route. Peristalsis (involuntary movements) is a series of wave-like muscle contractions that moves food in esophagus when a bolus of food is swallowed. The lower esophageal sphincter (LES) relaxes after swallowing the bolus, and stays opened until the bolus enters stomach. The descriptive term (dysphagia) was put and used by scientists to describe - wrongly - both steps: Difficulty in swallowing in the oral (voluntary), and the failure of the intraluminal peristalsis (involuntary) in the esophagus and the blockage of the food

bolus. Dysphagia was used by scientists in general without specification or taking the functional or mechanical differences in these two steps in both sites into consideration. Difficulty in swallowing food in mouth may occur because of pain resulted from many causes as: acute pharyngitis, tonsillitis, or any kind of injuries in oropharynx. That is why, in this article we discuss the subject in regard to food bolus blockage in healthy esophagus only. If the swallowing process having any difficulty for the bolus to pass easily from the pharynx to the lumen of esophagus, it is called dysphagia (as it is nominated by scientists, and I agree with this part), because it is the first mechanical (voluntary) step. Here you can stop eating, you can stop swallowing, you can get bolus out of your mouth, all this under control. The second involuntary step is out of control, it submits to functional involuntary peristalsis process of the esophageal lumen and muscles. The failure of the food bolus to move with ease inside esophageal lumen to stomach and stuck in esophagus making a blockage is not considered dysphagia according to my suggestion. I call it: acute esophageal blockage by food bolus impaction. In another words after Swallowing (voluntary step) and passing the first Upper esophageal sphincter (UES), the food bolus moves forward to the lumen of esophagus and starts an involuntary step (peristalsis), here I contradict the scientists for their application and consideration the term (dysphagia) to this stage. After the voluntary phase of oral swallowing, receptors in the posterior pharynx will be activated to initiate the involuntary phase of esophageal lumen (peristalsis) which is out of control to anybody. If there is a bolus blockage in the esophagus at any site, we can't say dysphagia. We can say: acute food bolus blockage. Acute esophageal blockage occurs more often when patients are eating meat, bread and generally when they do not chew their large food bolus sufficiently. Some scientists stated that impaction is easily localized and felt by the patient. In fact, I was surprised to read this wrong information, because this indicated that some scientists did not remember anatomy of the esophagus well. Other scientists consider food bolus inside esophagus as foreign body, and this is another mistake. A foreign body can be defined as the presence of any object, food, or material in places other than their usual places and sites for example, pieces of food in respiratory passages, coin in esophagus, fish bones in esophagus, dust in eye, seed or bean in nostrils, etc., you can say it is an annoying guest.

## **Symptoms**

A number of symptoms have been put by physicians and researchers, though some of these symptoms are not among the well-known symptoms of the clinical picture for these health problems. Acute esophageal blockage by food bolus impaction is easily diagnosed by the patient himself because symptoms of food bolus impaction typically develop immediately after ingestion. It is not true as some physicians stated that the event is recognized by the sufferer (patient) after hours. The cardinal symptom of acute esophageal blockage by food bolus- (according to my experience) - is hiccup and diffuse retrosternal pain. Pain may occur as a result of distension and stretching of the esophageal lumen by a large food bolus obstruction. If, it is tightly impacted, this is a dangerous moment, which may lead to sudden death. Patients suffer a sensation of squeezing and diffuse pain in the chest with feeling something stuck in retrosternal region. Hiccup is an involuntary contraction of the diaphragm, it results from many causes, and one of them is the food bolus impaction in the esophagus. Patients with acute blockage by food bolus impaction do not have any interruption of breathing as some stated. Also it is not true as some researchers said that patients with this health problem, has: no retrosternal (pain), has persistent cough, speechless, breathlessness, motionless, dyspnea and vomiting. In fact, all these symptoms represent choking [3]. Others added wrongly: excessive salivation (not true in food bolus impaction), retching, repeated flexion and extension of the neck, pressure on the trachea causing respiratory symptoms such as wheezing, cough, dyspnea, or stridor. In fact, I do not know how could scientists list all these symptoms for food bolus impaction and on what did they base these symptoms?. Most food bolus impactions in healthy esophagus resolve without interference(spontaneous), either by moving forward to the stomach (as I experienced it) or

by self-induced vomiting (as some stated, but I did not do this), or it may lead to sudden death. Patient refrains to eat or drink water or other fluids when experiencing food bolus impaction or large food bolus stuck, despite his ability to do this, because of frightening to exaggerate the status (sensation of pain and discomfort) and you still in a state of, apprehensive till the event passed.

### **Self - Experience**

During the episode, immediately, I experienced hiccups and I felt diffuse retrosternal pain with feeling of food bolus stoppage in lower esophagus. My advice to manage this medical event after experiencing such incident is to try an attempt to dislodge this bolus, by widening your chest cavity with deep breath and moving your epigastrium region (region of diaphragm) upward while continuing to breathe deeply and moving to left side and right side, front and back and start to drinking water or any fluid with very little amount according to your estimation to your status until you feel slow movement of food bolus with pain toward stomach. Cases with other foreign body as fish bone- (which I don't consider it food bolus)-, is managed in another way, some need emergency and surgical interference. I saw a case (surgical interference), with ENT specialist. He extracted a fish bone from the lumen of the esophagus of a female patient aged about 60 years (under general anesthesia). It was a long hard bone about 4 cm in length. Generally physicians advise: Pushing the bolus gently into the stomach is recommended for the treatment of esophageal food bolus impaction. But this will request surgical interference or extraction is the preferred technique when there is a foreign body as our fish bone case.

### **Cause of Death**

The esophagus is innervated by both parasympathetic (vagus) and sympathetic nerves. The parasympathetic controls peristalsis of the esophagus layers. The cause of death is reflex vagal inhibition of the heart (Cardiac inhibition) [6], due to vagus nerve stimulation caused by distension and stretching inside esophagus by large food bolus impaction. Commonly, at the lower part of the esophagus, the retrosternal site (having a constriction) is generally affected by lodgment (stuck) of food bolus. The four anatomical constrictions of esophagus which may be affected are: Arch of aorta, Bronchus (left main stem), cricoid cartilage, diaphragmatic hiatus. The lower constriction is commonly affected and the more dangerous [7,8].

### **Conclusion**

Acute esophageal blockage by food bolus impaction is a serious condition that can lead to sudden death if not passed spontaneously or managed immediately. Dysphagia is a wrong medical term given by scientists and physician to represent both stages: difficulty in swallowing at oral stage, and esophageal peristalsis failure (food bolus impaction). Food bolus blockage usually occurs as a result of large bolus in healthy esophagus. Food is not a foreign body as some stated when it passes in its normal route (esophagus).Some food bolus might pass spontaneously, while other may lodge, stuck and obstruct the esophagus which may require urgent interference or may lead to sudden death. The accident could be solved by pushing the impacted food bolus into the stomach or extraction of the impacted food bolus, by surgical decision and interference. Finally, you have to remember that esophageal blockage by food bolus does not mean dysphagia.

### **Acknowledgment**

I thank Mr. Aban Alfleesy for his linguistic review of this article.

## REFERENCES

1. Fung BM, Sweetser S, Wong LM, et al. (2019), Foreign object ingestion and esophageal food impaction: An update and review on endoscopic management. *World Journal of Gastrointestinal Endoscopy* 11(3): 174-192.
2. Chae HS, Lee TK, Kim YW, et al. (2002) Two cases of steakhouse syndrome associated with nutcracker esophagus. *Diseases of the Esophagus* 15(4): 330-333.
3. Garcia I, Varon J, Surani S (2016) Airway complications from an esophageal foreign body. *Case Report in Pulmonology* 3403952.
4. Longstreth GF, Longstreth KJ, Yao JF (2001) Esophageal food impaction: epidemiology and therapy. A retrospective, observational study. *Gastrointestinal Endoscopy* 53: 193-198.
5. Alfleesy O (2020) Café Coronary Death is a Misleading Medical Term that had been put and Applied Wrongly by Haugen in 1963 Instead of Choking Death. *Current Trends in Clinical & Medical Sciences* 1(4).
6. Palmer ED (1976) The abnormal upper gastrointestinal vagovagal reflexes that affect the heart. *The American Journal of Gastroenterology* 66: 513-522.
7. Ko HH, Enns R (2008) Review of food bolus management, *Canadian Journal of Gastroenterology* 22(10): 805-808.
8. Ginsberg GG (2007) Food Bolus Impaction. *Gastroenterology & Hepatology* 3(2): 85-86.