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Asphyxiation as a Consequence of "Body Stuffing"

Abstract

"Body stuffing" is a hazardous practice in which substance dealers or abusers quickly ingest or conceal illicit substances to evade arrest or possession charges from law enforcement. This case report describes the asphyxiation death of an individual suspected of body stuffing.

Keywords: Forensic Pathology; Autopsy; Asphyxia; Body stuffing; Drugs; Death investigation; Police; Cocaine; Marijuana

Case Report

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Abbreviations: EMS: Emergency Medical Services; THC: Tetra Hydro Cannabinol

Introduction

The intentional intracorporeal concealment of illicit substances presents clinical, legal, and ethical challenges. "Body packing" is a phenomenon in which drug couriers conceal illicit substances in the alimentary tract for transportation across international borders or other points of possible inspection [1]. In contrast, "body stuffing" is a phenomenon in which substance dealers or abusers, faced with imminent arrest, conceal illicit substances to evade arrest or possession charges from law enforcement [2]. Given the quick manner of concealment and poor wrapping of packages, body stuffers are at especially increased risk of medical complications including acute poisoning, intestinal obstruction, or asphyxiation of foreign material [3]. Medical personnel and law enforcement should be aware of these complications when managing individuals suspected of concealing illicit substances. Herein, our case report expands on the apparent asphyxiation and death of a male in police custody suspected of body stuffing.

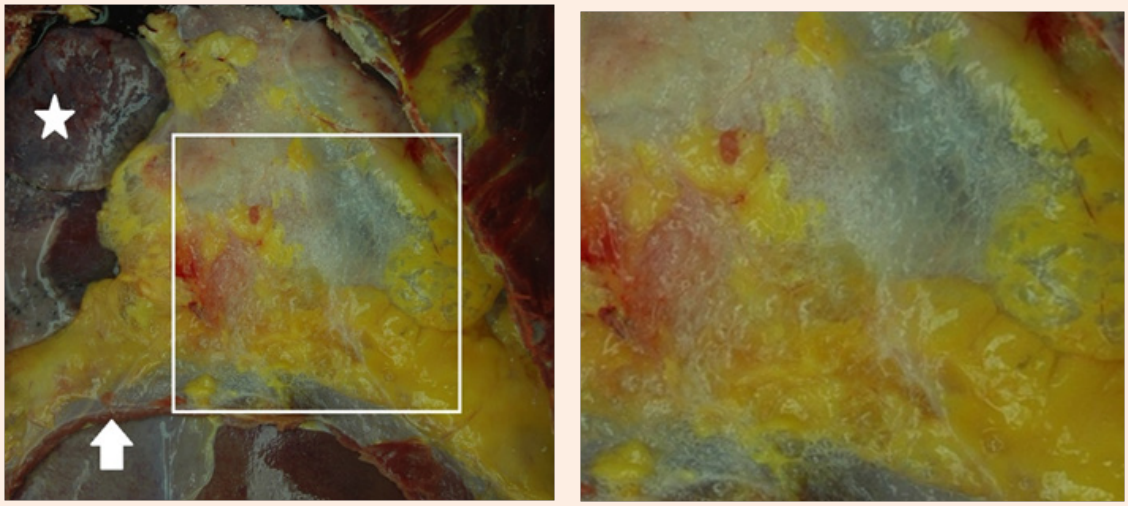
Case Presentation

A 31-year-old male in police custody passed away from apparent asphyxiation on a foreign body. Police attempted to stop the subject as he was riding a moped matching the description of a stolen moped. The subject attempted to flee police initially on his moped and then subsequently fled on foot. Police attempted one stun-gun deployment without effect. Police eventually apprehended the subject and noticed that he was having difficulty breathing.EMS was called to the scene. The paramedics arrived and attempted intubation; however, they noticed an obstruction in the oropharynx and removed a foreign body appearing to be a piece of plastic containing a "green leafy substance" (Figure 1). The paramedics again attempted intubation but noticed there was still an obstruction. The subject was transported by EMS to the emergency department where continued attempts at ventilation proved difficult. A cricothyroidotomy was eventually performed in the emergency department; however, resuscitative efforts failed and the subject expired at the hospital.

Figure 1: A photograph of the bag with a "green leafy substance" (contained within an evidence bag) removed by EMS personnel.

A complete autopsy was performed on the decedent. External examination for injury revealed a contusion on the left eyebrow, a puncture mark on the left triceps, and superficial abrasions on the right forearm, palms of the hands bilaterally, the right knee, the left knee, the left shin/ankle, and the left foot and great toe. A layer by layer anterior neck dissection revealed no injury other than the localized injury related to the cricothyroidotomy; however, there was extensive mediastinal/soft tissue emphysema (Figure 2a,2b). Internal examination revealed a piece of plastic containing a foreign substance occluding the distal trachea and main stem bronchi bilaterally and an endotracheal tube related to the cricothyroidotomy extending past the plastic into the right main stem bronchus (Figures 3-5). The remainder of the gross internal

examination was unremarkable except for focal mild aorta and coronary artery atherosclerosis. Microscopic examination revealed multifocal areas of intra-alveolar blood in the lungs (Figure 6), mild coronary artery atherosclerosis, and denuded mucosa and mild inflammation in the trachea. A postmortem blood drug screen was qualitatively positive for ethanol, THC metabolite, and cotinine, and negative for cocaine. The blood ethanol was 136 mg/dL. A postmortem urine drug screen was positive for ethanol, THC metabolite, nicotine, cotinine, cocaine, and cocaine metabolite. Substance analysis by gas chromatography-mass spectrometry demonstrated that the contents inside the plastic bag recovered at autopsy tested positive for cocaine. The substance in the bag recovered by EMS was confirmed to be marijuana. The cause of death was determined to be asphyxia due to airway obstruction by foreign body, and the manner of death was accidental.



a b

Figure 2: a) A photograph of the mediastinum following chest plate removal at autopsy, with abundant mediastinal emphysema (within square). The star indicates the right lung. The arrow shows the anterior edge of the diaphragm. b) INSET – A closer view of the mediastinal emphysema. Note the "air bubbles" within the soft tissue.

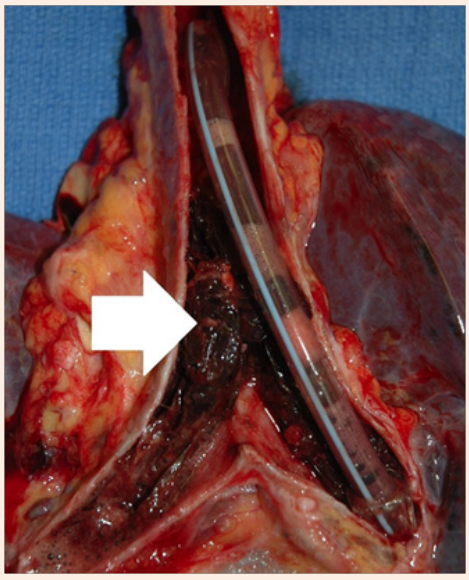


Figure 3

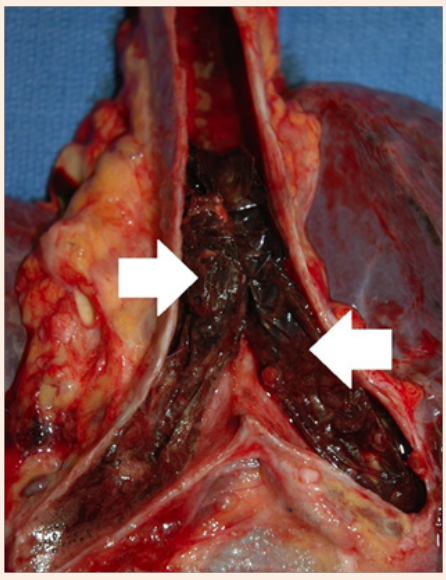


Figure 4

Figure 3: An autopsy photograph showing the trachea, after opening the posterior aspect. Note the presence of an occlusive foreign body (arrow), as well as an endotracheal tube whose tip is within the right main stem bronchus.

Figure 4: Another photograph of the opened trachea, with the endotracheal tube removed. Note that the foreign body is present within the trachea, as well as both main stem bronchi (arrows).

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Figure 5

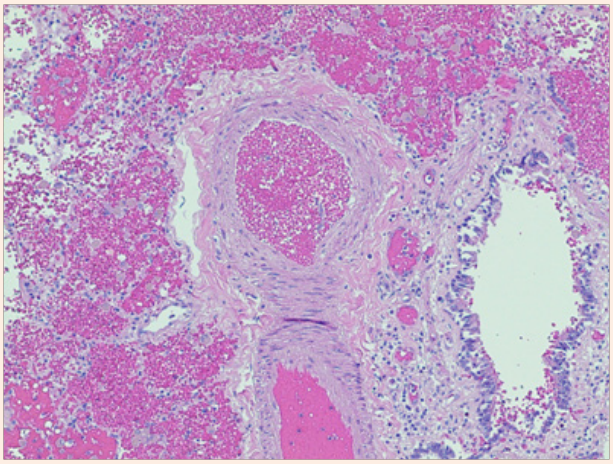

Figure 6

Figure 5: The plastic material after removal from the airway (viewed from the front).

Figure 6: A representative histologic section of the lung, showing intra-alveolar blood (Hematoxylin & Eosin; original magnification 100X).

Discussion

The distinction between "body packers" and "body stuffers" is determined by the motivations of the individual, the method of packaging, and the organization in planning the transport of drugs [4]. "Body packing" is a phenomenon in which drug couriers conceal illicit substances in the alimentary tract for transportation across international or other borders [1]. These packages characteristically contain a larger quantity of illicit drug and are well wrapped in condoms or balloons [2]. In contrast, "body stuffing" is a phenomenon in which substance dealers or abusers, faced with imminent arrest, conceal illicit substances to evade arrest or possession charges from law enforcement [2]. These packages characteristically contain a smaller quantity of illicit drug that are poorly wrapped in plastic packages [2]. In this case, the decedent was determined to be a body stuffer rather than a body packer due to the circumstantial history of swallowing a package while attempting to evade police, the small volume and crude packaging of the illicit substance, and the absence of packages in the alimentary tract. Medical personnel should be cognizant of the risk of asphyxiation of foreign material when encountering individuals suspected of body stuffing.

The most commonly concealed substances include cocaine, heroin, and cannabis, yet methamphetamine and "ecstasy" concealment have been reported [5]. The classic medical complications of intracorporeal concealment include signs of intestinal obstruction or acute poisoning, known as "body packer syndrome" [6]. The most frequent cause of death in these individuals is overdose secondary to rupture of ingested packages in the gastrointestinal tract, although fatality following rectal and vaginal absorption have also been reported [4,7,8]. One retrospective study of cocaine body stuffers found that rupture of ingested packages and severe drug-induced toxicity led to the development of seizures, dysrhythmias, and cardiac arrest [9]. Although body packing and body stuffing are common phenomena, aspiration of cocaine packages has only been reported five times in the literature with varied outcomes [10-14]. In the majority of these cases, individuals trying to resist arrest developed respiratory difficulty on scene. In the three cases in which individuals survived, the aspirated cocaine packages were successfully visualized and retrieved by physicians at the receiving hospital. Detection of illicit packages by imaging techniques varies based on type and purity of drug, and number, size, shape, and wrapping material of packaging [3]. The uses of plain abdominal radiography and ultrasonography have shown efficacy in initial screening of body stuffers, whereas computed tomography has shown accuracy in confirming diagnosis and identifying complications associated with body stuffing [1,2,3,5,15]. The use of flexible or rigid bronchoscopy has been successful in removing aspirated material occluding the distal airway, yet care must be taken to avoid rupture of the plastic wrapping resulting in pulmonary absorption of toxins or pneumonitis [14]. Early recognition and management of asphyxiation due to airway obstruction by EMS and rapid visualization and retrieval of the foreign body at the emergency department may have prevented the negative outcome in this case.

Learning Points

1. Medical personnel including EMS and emergency physicians should be aware of "body packing" and "body stuffing."
2. Although the gastrointestinal tract is the most common site of involvement in "body stuffing," other anatomic cavities including the airway need to be considered.
3. Presence of substances occluding the oropharynx should raise suspicion for the presence of additional substances occluding the distal airway.

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