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Surgical care for ingested cocaine packets: Case report and literature review

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ABSTRACT

INTRODUCTION: Body packing is the use of intra-corporeal packages of illicit drugs for the purpose of smuggling, usually through customs. Clinical cases and experience with body packers has increased since the first report appeared in 1971. These cases remain an uncommon cause of acute drug toxicity and/or bowel obstruction.

PRESENTATION OF CASE: A 23 year-old man was brought to the emergency department with seizures. CT imaging revealed numerous intestinal foreign bodies, suspicious for body packing. The patient was stabilized and taken emergently to the operating room for exploratory laparotomy and removal of 34 cocaine packets. Ongoing treatment for cocaine overdose was also utilized. The patient recovered without complications.

DISCUSSION: This case provides insight and awareness for proper diagnosis and management of body packers by physicians and surgeons alike.

CONCLUSION: We present a case report of acute cocaine intoxication in a young man who ingested 34 packets of cocaine for means of drug trafficking. Medical approaches are available for cases in which patients remain asymptomatic, but surgical intervention is necessary for those with signs and symptoms of bowel obstruction or drug overdose.

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1. Introduction

Drug traffickers who swallow drug packets for concealed transportation first entered the medical literature in 1971 with a case report of a man who developed a bowel obstruction nearly two weeks after consuming a condom packed containing cannabis [1]. Individuals who perform the act of “body packing” are often derogatively referred to as “mules” or “drug mules.” This method of drug smuggling has become more common, demanding awareness and expertise from surgeons as well as physicians in emergency medicine, critical care, and gastroenterology.

Clinicians have made distinctions between three entities: body packing, pushing, and stuffing [2]. Body packing refers to the purposeful ingestion of illicit drugs, packaged to prevent drug seepage. This is usually done in an effort to get through customs and immigration. Body pushing occurs when patients insert and carry packets within the rectal vault, vaginal canal, or the ear. Body packing and pushing are means of smuggling, whereas body stuffing

occurs when a person swallows drugs when arrest is eminent. Body pushing generally carries the least risk of medical complications because the foreign bodies are located in close relation to the orifice where they were introduced. In contrast, body packers or stuffers can have items lodged anywhere in the alimentary canal, and in some rare cases aspirate into the bronchial tree. This case report is primarily focused on *body packing*.

Body packers can present to the emergency department voluntarily or in custody of law enforcement. Airport authorities are trained to search for suspicious travelers with shaking hands, profuse perspiration, or ill-fit clothing sometimes worn to disguise body smuggling. Once detained, suspects may be brought to a physician at the airport. Airport workup most commonly includes a plain abdominal radiograph, but some venues wait for passage of drug packets in the stool. Urinalysis is sometimes utilized but does not distinguish between drug users and packers. Two retrospective case series on body packing, a U.S. study of 25 patients and a U.K. study of 36 patients, were both done at hospitals near major international airports [3,4]. In circumstances where security does not identify the suspect, worried body packers may seek medical attention after failing to pass drug packets in their stool or when they begin to experience symptoms.

Upon arrival for clinical evaluation, body packers can be asymptomatic or exhibit overt clinical signs of drug toxicity or bowel

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Fig. 1. (A): KUB – showing lucency around a packet seen in the stomach. (B): Multiple tubular structures within the stomach/foreign bodies/packets of cocaine. (C): Residual foreign bodies within the lumen of the colon mainly within the splenic flexures suggestive of drug packets.

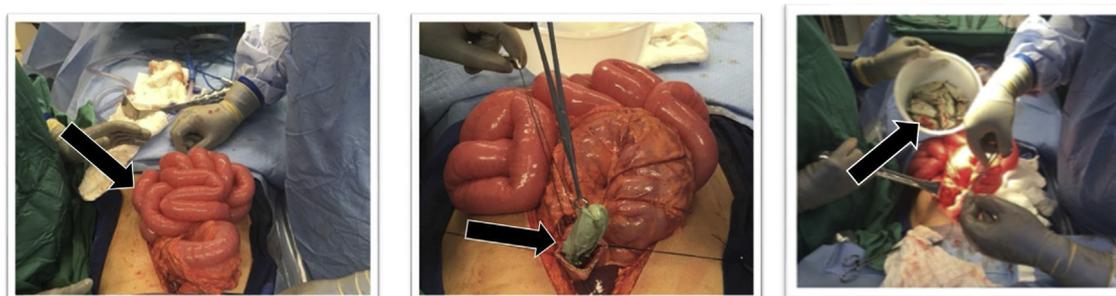


Fig. 2. (A): Large distention of small bowel and colon alike, most likely reactive. (B & C): Retrieval of drug (cocaine) packets from the stomach via a gastrotomy; 30 packets were removed from the stomach.

obstruction. Advancements in smuggling have led to improvements in the wrappers and capsules used to encase drugs prior to ingestion, decreasing the likelihood of leaking and ruptured packets. As a result, some hospitals have implemented conservative medical management protocols for body packers without drug toxicity or acute abdomen [5–8]. For symptomatic patients, the two most common indications for surgical removal of drug packets are bowel obstruction and acute drug toxicity. Bowel perforation [9] and esophageal obstruction/perforation [10] have appeared in the literature but are rare complications.

Swallowed drug packets commonly contain cocaine or heroin; amphetamine and cannabis packets are seen, albeit less often by comparison. Clinical evaluation to elucidate the causative agent has implications for the course of treatment. Patients with cocaine intoxication often exhibit agitation, seizures, hyperthermia, systemic hypertension, and arrhythmias. These symptoms can be treated with benzodiazepines, cooling protocols, paralytic agents, and phentolamine. Heroin intoxication often involves respiratory depression, altered mental status, and acute lung injury, which can be treated with endotracheal intubation, ventilation, and naloxone in the intensive care unit. Body packers should be monitored for arrhythmias, seizures and respiratory depression until all packets are removed. Body packers intoxicated by heroin do not necessarily require surgical removal [11]. This case has been reported in line with the SCARE criteria [12].

2. Presentation of case

We present a case of a 23 year-old man brought to the emergency department after being found with seizures and emesis on the hospital campus. He was unconscious on arrival with a Glasgow Coma Scale of 3. Vital signs revealed tachycardia up to 160 beats/minute, blood pressure 105/55 mmHg, respiratory rate 45 breaths/minute, afebrile, and good oxygen saturations. Initial

management included endotracheal intubation, ventilation, intravenous fluids, and administration of intravenous benzodiazepines. Initial laboratory data revealed a leukocytosis and lactic acidosis, consistent with a seizure. Urine toxicology screen was positive for cocaine, benzodiazepines, and cannabinoids.

Evaluation of the emesis revealed an intact drug packet, prompting radiographic investigation (Fig. 1). CT abdomen/pelvis with orally-administered water soluble contrast demonstrated numerous foreign bodies in the gastric lumen, small bowel, and colon.

Surgery was consulted for further evaluation and management. The patient was taken to the surgical suite for an exploratory laparotomy. A surgical gastrotomy was undertaken and thirty drug packets were removed (Fig. 2). Careful running of the small bowel confirmed there were no remaining packets but surgeons identified packets in the cecum and rectum on palpation. Intra-operative EGD confirmed an empty esophagus. The surgeon felt that the remaining packets could reasonably be passed per rectum or retrieved with colonoscopy and avoid surgically entering un-prepped bowel. One of the packets was opened in the operating room to investigate its composition: white powder assumed to be cocaine, wrapped with five layers of thin nylon material, surrounded by an outer layer made from rubber glove fingers (Fig. 3).

The patient went to the ICU postoperatively and received polyethylene glycol, magnesium citrate, and lactulose via nasogastric tube to prepare for colonoscopy and possibly promote spontaneous passage of the remaining packets. Colonoscopy was performed on post-operative day 1 and was limited by poor visualization, prompting the administration of two sodium phosphate enemas before a second attempt at colonoscopy. The patient developed an ileus with distended bowel. Therefore, the patient was taken back to the operating room for a second exploratory laparotomy and removal of the four remaining drug packets in the colon. The abdomen wound was closed and the patient began recovery. After 17 days in the hospital, he was discharged in stable condition

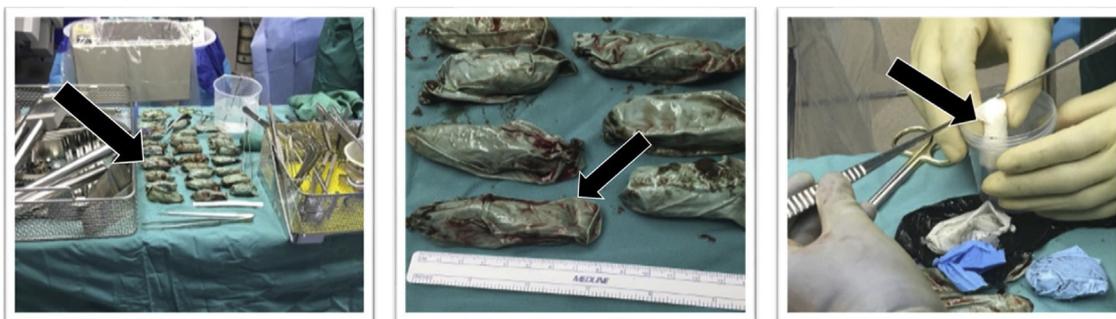


Fig. 3. (A): Back-table in OR showing all retrieved drug packets -34 in total. (B): Close-up of individual drug packets (cocaine) removed. (C): Opening of an individual drug packet at back-table showing multiple layers within the packets surrounding or packing the cocaine (white powder) on the inside; outer most layer is a finger glove (light green).



Fig. 4. (A): Shows EGD findings of multiple packets of drugs (cocaine) in the stomach, unable to be removed by an EGD scope. (B): Plastic bag containing all retrieved drug packets (cocaine) from the 1st surgery, 30 in number.

into the custody of law enforcement and transported to a correctional facility. All cocaine packets were retrieved by detectives and police officers (Fig. 4).

3. Discussion

Despite rising rates of body packing, other etiologies of bowel obstruction and drug intoxication remain far more common. Identification of body packers based on history and physical examination can be a challenge because some patients are deceitful based on their fear of arrest. Diagnosis and directed management for body packers relies on radiographic evidence of foreign bodies.

Plain film abdominal radiograph is generally sufficient to raise the index of clinical suspicion for body packing and permit intervention. Air trapped between layers of a drug packet can sometimes appear as a classic radiologic finding known as the “double condom sign” [13]. Air associated with knots tied in balloons, condoms, and other wrapping materials can appear on plain film as “rosettes.” Plain radiography is more valuable than ultrasound imaging for the detection of drug packets [14]. Inconclusive abdominal films can merit further imaging with CT or other oral contrast studies such as small bowel series. Drug packets on contrast-enhanced radiographic studies appear as filling defects within contrast media. A 2006 case series on body packing warned that CT imaging can delay management when the study cannot be performed immediately [3], but advances in technology and accessibility will continue to improve its utility as an imaging modality in the future [15].

Body packing also poses a serious risk for the development of bowel obstruction. Ingested foreign bodies often become lodged at anatomical bottlenecks, commonly in the pylorus, terminal ileum, sigmoid colon, and in some cases the lower esophageal sphincter. CT imaging for our patient showed numerous packets in the

stomach and bowel. A British case series identified gastric outlet obstruction as the most common indication to operate on body packers. Our patient vomited one of the drug packets in the emergency department and had the majority of packets located in the stomach, but the significance and severity of pyloric obstruction in relation to the cocaine intoxication was unclear.

Our patient’s clinical picture of acute cocaine intoxication with foreign bodies on CT imaging necessitated surgical intervention. Drug packet rupture was the factor leading to his presentation. Investigation of the drug packet construction showed that they were likely handmade, increasing the likelihood for leakage or rupture in comparison to more sophisticated machine-processed packets [16].

Surgical removal of drug packets in body packers with cocaine toxicity or bowel obstruction is the standard of care. Some reports of endoscopic removal have been successful [17–19], but this intervention poses a greater risk for rupture [20], a major concern as a single packet can contain a lethal dose of drug.

Operative technique involves creating a gastrotomy or enterotomy and gently “milking” the drug packets toward the site for removal. Sometimes multiple enterotomies are necessary to ensure removal of all foreign bodies, but there is increased risk for post-operative infection with multiple enterotomies [3]. Packets in the sigmoid colon and rectum can often be removed transanally.

4. Conclusion

We present a case report of an acute cocaine intoxication in the setting of body packing that required surgical intervention. Two operations altogether yielded 34 packets, a sum of 200 g of cocaine. Following removal, our patient made an uneventful recovery before discharge to a correctional facility.

Conflict of interest

Authors declare no competing interests.

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Ethical approval

This report is conducted in compliance with ethical standards.

Consent

Authors made every attempt to obtain written authorization but were unable to locate the patient, who has long-since been discharged from our facility and has not left updated contact information. We also would like to confirm that this manuscript contains no patient identifiers and is anonymous. Thus, this manuscript is compliant with all relevant HIPAA, Common Rule and institutional regulations. Institutional Research and Ethic Committee approved submission of this case report. A letter from Head of Research can be provided upon journal request.

Author contribution

Adel Elkbuli, Dessy Boneva – Conception of study, acquisition of data, analysis and interpretation of data. Adel Elkbuli, Dessy Boneva, John D. Ehrhardt Jr – Drafting the article.

Dessy Boneva, Mark McKenney – Management of case.

Adel Elkbuli, John D. Ehrhardt Jr, Dessy Boneva, Shaikh Hai, Mark McKenney – Critical revision of article and final approval of the version to be submitted.

Registration of research studies

This is a case report study.

Guarantor

Dessy Boneva.
Mark McKenney.
Shaikh Hai.

Provenance and peer review

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