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Case Report

Liquid Cocaine Body Packing: Report of a Case and Literature Review

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ABSTRACT

Background: Liquid cocaine body packing is a novel and rare method for drug smuggling. This new modality of drug trafficking is more difficult to detect by X-ray due to its low density and its purity is higher than powdered cocaine.

Methods: We are discussing about a 38-year-old male with clinical and radiological diagnosis of intestinal occlusion secondary to condom filled with liquid cocaine. On abdominal X-ray no foreign body is detected. CT scan reveals a hyperdense image compatible with a cocaine liquid package in distal ileum with retrograde dilatation of small bowel.

Results: Laparotomy is performed and after the enterotomy, the liquid cocaine package is carefully "milked" and removed. Postoperative period is uneventful.

Conclusion: Drug trafficking has evolved in recent Zmes. Knowing this new variant is crucial to detect mules and provide them adequate treatment. Its ignorance can induce underdiagnosis and fatal consequences for the patient.

Keywords: Body packing; Liquid cocaine; Drug mules; Internal carriers; Drug trafficking; Intestinal obstruction

Abbreviations: BP: Body Packing; LC: Liquid Cocaine; CRP: C Reactive Protein; CT: Computed Tomography; MRI: Magnetic Resonance Imaging

INTRODUCTION

Body Packing (BP) is a common method of drug trafficking in which smugglers intentionally ingest drug-filled packages before travelling [1]. It was first described in 1973 in a patient with small intestinal obstruction after swallowing a condom filled with hashish. We can distinguish between "body packers" also called "mules", "swallowers" or "internal carriers" and two other entities: "body pushers", who are smugglers that insert and carry drug packets within the rectal vault, vaginal canal or the ear; and "body stuffers", who ingest the foreign body just before being caught by law enforcement officers [2-4].

Drug packets commonly contain cocaine or heroin and less frequently, amphetamine, cannabis, hashish or synthetic drugs and hallucinogens. Drugs are usually wrapped in latex, rubber, glove fingers, aluminum foil or cellophane. These cocaine packages generally contain 3-6 g of cocaine and are swallowed or put in rectally in a range of approximately 1–150 pieces. Parasympatholytic drugs are used in flights to delay defecation and laxatives or enemas are utilized to help evacuate the packets. Some complications of BP are poisoning due to leakage of these packages, intestinal obstruction and delayed evacuation of them. Patients with cocaine intoxication show agitation, seizures, hyperthermia, hypertension, and arrhythmias. Heroin intoxication often involves respiratory depression, altered mental status, and acute lung injury.

All these practices carry a high risk of death. First mortality rates published in the literature were up to 56% after leakage or rupture of the package due to acute drug intoxication (mainly cocaine overdose). However, BP has been improved and the latest series indicate that the rate of cocaine overdose due to packet leakage is less than 3% [5]. Patients with cocaine intoxication can be treated with benzodiazepines, cooling protocols, paralytic agents, and phentolamine. Heroin intoxication can be treated with endotracheal intubation, ventilation, and naloxone in the intensive care unit [6]. Cocaine poisoning is more dangerous than heroine poisoning because they are no antidotes available to counter the lethal effects of cocaine and the rupture of a single cocaine packet can lead to death [7]. Although medical therapies have a role for the treatment of this condition, surgical intervention is the gold-standard procedure for removing drug packets when bowel obstruction is present or when there is acute drug toxicity.

Worldwide illegal drug transport using the human body has become increasingly common in recent years. Especially after the attacks of

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9/11, border control measures and security systems at ports and airports have been improved, so the number of arrests of these individuals has also increased. However, the way of drug packaging as well as the type of drug transported has also been sophisticated in recent times. So, the real challenge is diagnosing when the clinical suspicion is unclear or the patient has ingested low density drugs such as Liquid Cocaine (LC) and can be unnoticed on imaging tests. In these cases, radiological imaging plays an important role in detecting and locating packets as well as follow-up. Diagnosis of LC filled packets using X-ray can end in false negative results because they can take the shape of the intestinal lumen and appear in similar density with intestinal content on plain films [8,9]. Double-condom sign, rosette sign and dense material sign are typical imaging findings. Unfortunately, packages with LC do not usually exhibit those signs and performing a Computed Tomography (CT) scan is generally necessary in order to establish the diagnosis.

We present a case of intestinal obstruction in a LC body packer. Our objectives are to describe this entity as well as alerting of this form of presentation of the illicit shipment of cocaine that entails a higher purity of the substance.

CASE REPORT

We present a case of a 38-year-old male native of Cali (Colombia) with personal history of occasional enolism and Hodgkin lymphoma treated with bone marrow transplant in 2008 who is attended in the Emergency Department with intestinal obstruction of 5 days evolution when he landed in Mallorca (Spain). He reports high intensity abdominal pain with nausea and uncontrollable vomiting. No fever or dysthermic sensation. After exhaustive anamnesis, the patient confesses ingesting a foreign body (LC wrapped in a condom) prior to his trip. No bowel movements since then.

On physical examination, his temperature is 35.8°C with blood pressure of 125/98 mmHg and heart rate of 110 bpm. The abdomen is distended and tympanic, painful on palpation without signs of generalized peritonism. On rectal examination the rectal vault is empty. The only pathological finding in blood test is C reactive protein (CRP) of 2.35 mg/dL. Abdominal X-ray shows distension of small bowel without a visible foreign body or the classical imaging findings (Figure 1). Contrast enhanced CT scan and CT scan with 3D reconstruction is then performed finding a hyperdense image compatible with a foreign body of 13 cm in a segment of the distal ileum. It causes retrograde dilatation of small bowel. No pneumoperitoneum is seen (Figure 2).

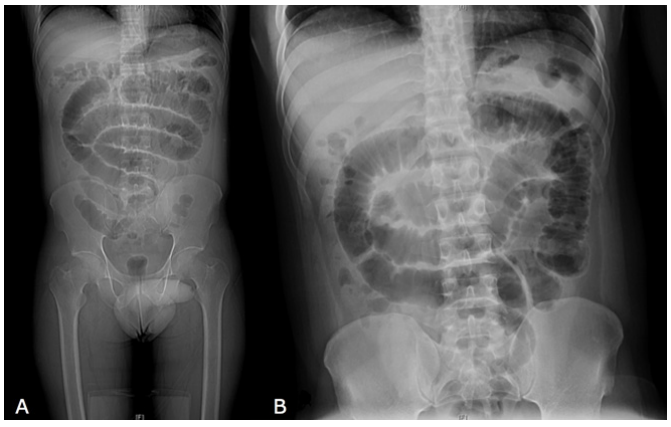

Figure 1: (a) Body X-ray; (b) Abdominal X-ray. No clear drug package is seen in both images.

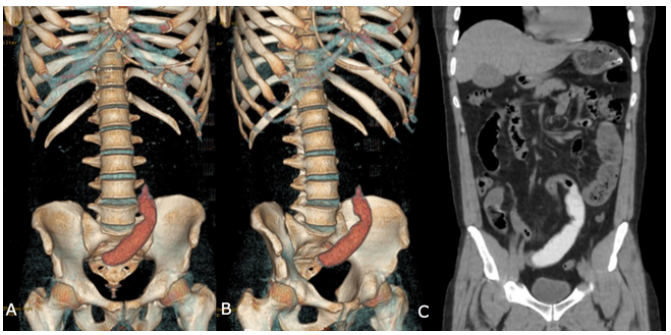

Figure 2: (a) Anterior; (b) Lateral 3D-CT scan showing a 13 cm condom filled with liquid cocaine; (c) Sagital section of contrast enhanced CT scan revealing a hyperdense image compatible with liquid cocaine package in the distal ileum with retrograde small bowel dilatation.

Urgent surgical intervention is then decided. We inform the patient of suspected diagnosis and surgical procedure. The patient signs an informed consent understanding the risks and benefits of the surgery. In order to proceed in accordance with Spanish law, we contact the judge on duty and police officers before performing the surgery.

Under general anesthesia and antibiotic prophylaxis with 2 gm of amoxicillin-clavulanic acid, urgent suprainfraumbilical laparotomy is performed finding a massive small bowel distension. The distension reaches until the occlusion zone in the distal ileum caused by the condom filled with liquid cocaine. A longitudinal enterotomy is performed carefully and we gently "milk" the LC package toward the site for removal (Figure 3). Afterwards, it is delivered to the National Police officers. Transverse enterorraphy is performed and good passage through the sutured area and absence of leaks are verified. Abdominal wall is closed without any intraoperative incident. After surgery, the patient is transferred to the prisoner module of our hospital guarded by the police. After 4 days of admission, the patient evolves favourably and without any postoperative complication; CLAVIEN-DINDO: 0.

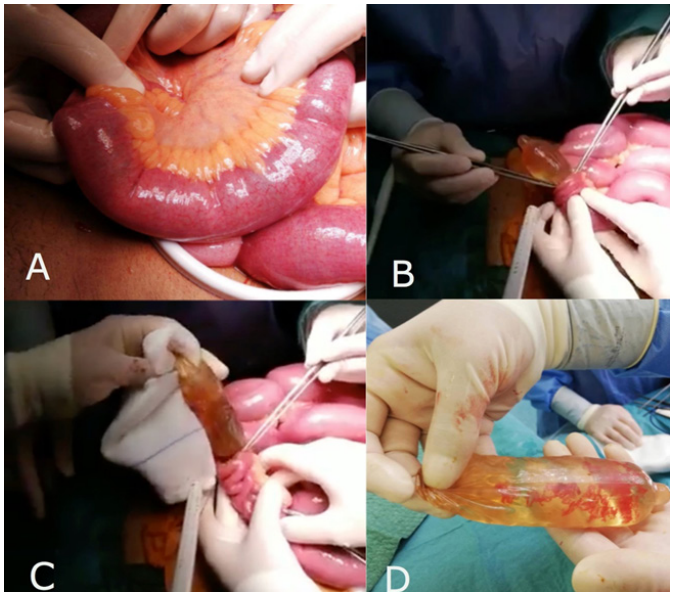

Figure 3: (a) Localization of liquid cocaine filled condom in distal ileum; (b) Enterotomy performed carefully in distal ileum and condom emerging from inside; (c) "Milking" maneuver; (d) Liquid cocaine filled condom removed.

DISCUSSION

Although packages that contain solid drugs are encountered in the majority of body packers, LC smuggling has been reported in the medical literature in recent years [10-12]. Diagnosis and management for body packers relies on radiographic evidence, mainly in LC body packers whose diagnosis is especially difficult due to its lower density and its capacity of taking the form of the intestinal lumen.

Abdominal X-ray is the most used imaging for the detection of body packers. However, its sensitivity levels ranges between 40 and 100%. This variability may be related to varitiSons in drug type, degree of purity, packaging material used, number and size of packages, location in the gastrointestinal system and expertise of the radiologist. Sensitivity and specIficity of X-ray for the detection of LC filled packages is significantly lower than those for the detection of packages containing solid drugs. This is a very important aspect to highlight since these body packers could be unnoticed on X-ray machines at ports and airports. Classically, air trapped between layers of a drug packet can appear as a classic radiologic finding on X-ray known as the "double condom sign". Air associated with knots tied in balloons, condoms can appear on plain film as "rosettes". Nevertheless, as in our clinical case, we don't commonly find those signs in packages that contain LC.

However, Mozes et al. suggested a new radiological feature of LC body packers on X-ray called 'thin lucent lines', which are formed by the thin layers of intestinal gas trapped in the interfaces between the adjacent packets. Two other new radiological signs were described by Tsang et al: the 'black crescent' sign which represents crescent of air around the drug packet and the 'lucent triangle' sign which shows air in the interface between drug packets or with bowel wall. As our patient only ingested a single LC package, all these signs did not appear. Nevertheless, all this radiological signs are difficult to be identified, particularly by inexperienced doctors and CT scan usually provides the diagnosis.

CT is normally performed without rectal or oral contrast because it may complicate the visualization of packages that have a similar density to the contrast material. Moreover, it may augment intestinal peristalsis and trigger intestinal obstruction. Sensivity of CT is 100% detecting LC packages. As we show, they are seen as shaped homogeneous, hyperdense structures taking the form of the intestinal lumen. The gas trapped between the packets forms a ''jigsaw'' pattern.

Another way to differentiate the content of the packages is through their density levels. Solid drugs density levels range from 2520 HU to 700 HU. LC packages are more homogeneous and have average HU levels of 155–310 and 177– 240, depending on the study. Magnetic resonance imaging (MRI) and ultrasound can be safely used in children and pregnant women but they have some disadvantages like low availability, high cost and long examination time (MRI) and low accuracy (ultrasound).

Once the diagnosis is made, the next challenge is related to the therapeutic management of the patient. There is very limle evidence about clinical management and potential harm of LC body packers. Either way, it should be performed with caution because of the risk of pack rupture with a probably higher purity and higher degree of absorption compared to cocaine in solid state. While indication of surgical removal of drug packets is clear when there is cocaine toxicity or bowel obstruction, there is no clear consensus about the management of asymptomatic cases. These cases can be treated with oral polyethylene glycol administration or oil-based laxatives but there is no agreement about how long body packers should be monitored. Permanence of packages in human body can vary greatly. Liquid cocaine packages appear to have a faster digestive transit than powdered cocaine packages (between 1 h and 14 h versus 6 h and 9 days). Although it is not evident when to perform surgery in asymptomatic cases, there are reports that recommend to do so at 5 and 7 days when packages cannot be defecated. It must be ensured with an image test (preferably CT) that all drug packages have been evacuated before initiating discharge procedures. Laparotomy is the recommended surgical approach. Endoscopic or laparoscopic removal is feasible but these interventions have greater risk for rupture.

As we show in Figure 3, any procedure (especially enterotomy and "milking" maneuver) must be carried out with extreme care because, presumably, LC appears to be more pure than powdered cocaine. Zapater et al described two cases of deceased people due to leakage of very pure LC packages. They report that this new modality also adds the danger of the substances used as the diluent. Traces of benzoylecgonine and cocaine in concentrations of 0.31 g/ml were detected in the intestinal lumen of the first case and traces of benzoylecgonine in the blood. In the second case, cocaine, benzoylecgonine and ethanol were detected in high concentrations (toxic-lethal range). Unfortunately, our case was under police investigation and we didn't receive any information from the authorities regarding the solute used and purity of LC. However, the patient was reported to have ingested a total of 63 grams of liquid cocaine valued at 7.675 euros. After a judgement, the court agreed to replace the prison sentence with expulsion from Spain for a period of seven years and a financial fine.

CONCLUSION

In conclusion, liquid cocaine BP is often difficult to be identified on the abdominal X-ray and the use of CT scan may help to increase its detection rate. Doctors should be aware of this new form of cocaine smuggling given the legal implications of non-detection and the severe potential harm in case of leakage due to a higher purity of the substance.

CONFLICT OF INTEREST

The authors report no financial disclosures and no conflicts of interest. The authors alone are responsible for the content and writing of the paper.

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