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Case Report

Drug-related deaths with evidences of body packing: Two case reports and medico-legal issues

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ABSTRACT

Body packing is a general term used to indicate the internal transportation of drug packages, mainly cocaine, heroin, amphetamines, and methamphetamine, within the gastrointestinal tract. We described two cases of accidental drug intoxication, observed over the last year period, with evidence of intracorporeal drug concealment. The first case concerned a body packer transporting 69 drug packages of heroin adulterated with piracetam. The second body packer transported 16 drug packages of cocaine adulterated with levamisole. For both cases, forensic examination and toxicological analysis of drug packages and biological samples were carried out. Authors also wants to highlight the main medico-legal issues that commonly arise in cases of suspected or ascertained body packers.

1. Introduction

Body packing is a general term used to indicate the internal transportation of drug packages within the gastrointestinal tract; the most common drugs involved are cocaine and heroin [1]. It is noteworthy that these drugs may be frequently and deliberately adulterated with various cutting agents such as piracetam and levamisole, respectively in the heroin and cocaine body packer cases presented in the paper.

The drugs concealed are wrapped in the form of capsules, made by cellophane, layers of latex, condoms, plastic bags, rubber cots, plastic foil, aluminum foil, wax, carbon paper or self adhesive tape [2,3]. Body packers usually carry about one kg of drug, divided into 50–100 packets of 8–10 g each, although drug smugglers carrying up to 500 packets have been reported [4–6].

Despite the increase in quality of the packaging procedures, and the consequent decrease in mortality among body packers, the rupture of the packets and the consequent toxicity remain the most important life-threatening complications [7]. Nevertheless, packet failure may still cause poisoning in the country of origin, during the journey, or at their destination, as in the cases presented. However, clinicians and forensic pathologists sometimes may discover the concealed drug packages through medical examination or autopsy of cases with an unknown cause of death [8,9].

The aim of this paper is to describe the forensic examination and the toxicological analysis carried out on both drug packages and biological samples, as well as to highlight the main medico-legal issues that commonly arise in cases of suspected or ascertained body packers.

2. Case reports

2.1. Case 1

An adult male with false ID card coming from a country of Western Europe by cruise ship was found dead in his cabin at the Rome harbor. The man was 173 cm in height and 90 kg in weight. The examination of clothes and personal effects, carried out by police officers, didn't shown any important elements. The external examination did not reveal any evidence of trauma.

A supine plain X-ray of the chest and abdomen was carried out. No pneumothorax, rib fractures or other significant elements were noted. There were multiple suspicious oval shaped radio-opacities projected over the stomach and through the gastrointestinal tract that were identified as drug packages (Fig. 1).

The autopsy examination showed marked congestion of cerebral vessels, with no evidence of intracranial hemorrhage. The brain weighted 1370 g and its coronal and transverse sections were

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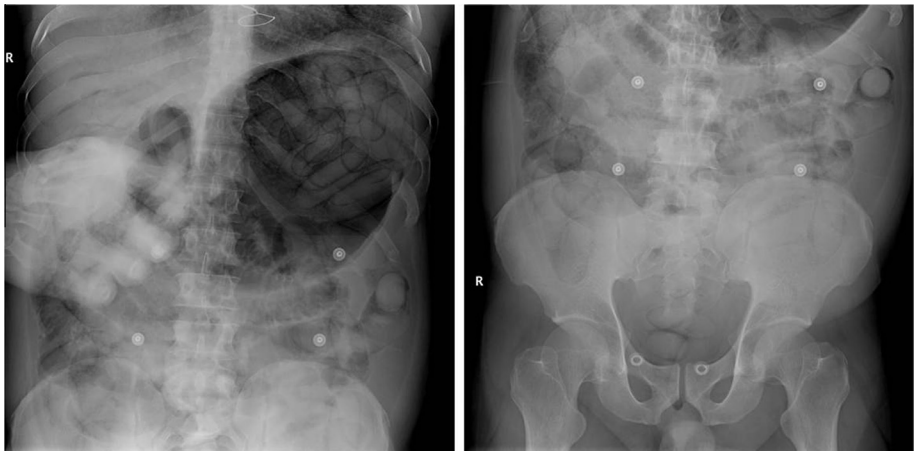

Fig. 1. Postmortem radiography showing multiple packages with a surrounding thin rim of halo, producing the "double condom sign". The halo is produced by the air trapped between the dense packet content and the outermost wrapping layer.

unremarkable. The heart weighted 310 g, no atheroma was seen in the coronary arteries. The lungs (left 460 g, right 480 g) were congested and edematous, mediastinal and airway structures were unremarkable. The liver (1075 g) shown steatosis and congestion of the parenchyma. The kidneys (left 148 g, right 165 g) shown marked congestion.

During the autopsy, one package was identified in the esophagus, 22 in the stomach (a single package was blocking the pylorus), 2 in the duodenum and 44 in the colon and rectum; a total of 69 packages were collected. The stomach was grossly distended and contained moderate amount of whitish-yellow paste like material that was collected for further toxicological analysis. The gastric mucosa was markedly congested with no signs of ulceration.

Specimens of the brain, skin, heart, lungs and liver, collected for further histological analysis, did not reveal any significant elements. Samples of peripheral blood, urine, bile and gastric content were collected and stored at −20 °C for toxicological examination.

2.1.1. Toxicological findings

Blood and urine screening for drug abuse (Triage® Drugs of Abuse Plus TCA Panel, Alere, USA) revealed an assumption of opiates. Samples of peripheral blood, urine, liver, bile, gastric contents and drug packages were taken for further analysis performed using validated gas chromatography–mass spectrometry (GC/MS) procedures [10,11]. Quantitative analysis, reported in Table 1, showed the presence of morphine in peripheral blood, urine, bile, and gastric content as well as its metabolite 6-MAM in bile and gastric content. No alcohol and other conventional drugs or poisons were detected in the samples. Traces amounts of piracetam, as cutting agent, has been also detected.

Table 1
Toxicological findings.

	Peripheral blood	Urine	Bile	Gastric content
Case # 1				
Morphine	0.8	11	42	5.9
Codeine	–	–	–	2.4
6-MAM	–	–	–	1.4
Piracetam	tr	tr	tr	tr
Case # 2				
Cocaine	4.4	259	96	1200[a]
BEG	22.5	222	31	–
EME	7.8	206	48.8	–
Levamisole	0.2	0.7	–	–
Diazepam	0.2	–	–	–
Nordiazepam	–	0.4	–	–
Temazepam	–	0.2	–	–
Lorazepam	–	0.1	–	–
THCA	0.03	0.3	–	–

Data were rounded to one decimal place; all values are expressed in mg/L. 6-MAM: 6-monoacetylmorphine; tr: traces; BEG: Benzoylecgonine; EME: ecgonine methyl ester; THCA: Tetrahydrocannabinolic acid.

[a] Value obtained from the analysis of the liquid part of the gastric content.

2.2. Case 2

An adult white male coming from North Africa by airplane was found dead in the bathroom of a hotel room in Rome. The body was that of an adult male, 180 cm in height and 70 kg in weight. Clothes and personal effects were seized by police officers and didn't shown any important elements. The external examination did not reveal any evidence of trauma.

In the bathroom trash can numerous wax fragments have been found; moreover, some laxatives have also been found.

The autopsy examination showed the following. The lungs (right 600 g, left 625 g) were congested and edematous, mediastinal and airway structures were unremarkable. No remarkable signs were noted at the expense of heart, liver and kidneys.

Important findings were seen in alimentary tract where 10 packages were located in the stomach, two in the duodenum and four in the colon and rectum; a total of 16 packages were collected. The stomach was distended and contained moderate amount of whitish-yellow paste like material and food that were collected for further toxicological analysis. The gastric mucosa was markedly congested with no ulcerations.

Specimens of the brain, heart, skin, lungs and liver, collected for further histological analysis, did not reveal any significant elements. Samples of peripheral blood, urine, bile and gastric content were collected and stored at −20 °C for toxicological analysis.

2.2.1. Toxicological findings

Blood and urine screening for drug abuse (Triage® Drugs of Abuse Plus TCA Panel, Alere, USA) resulted positive for cocaine and benzodiazepine. Samples of peripheral blood, urine, bile, gastric content and drug packages were collected for further analysis performed using validated GC/MS procedures [11,12]; positive qualitative and quantitative results for cocaine, benzoylecgonine and levamisole were obtained. Benzodiazepine and tetrahydrocannabinolic acid (THCA - a biosynthetic precursor of tetrahydrocannabinol) were detected as well; results are shown in Table 1.