Cocaine 'body packers' and the clinical management of packet rupture

Introduction

The transportation of illicit drugs by internal concealment was first reported from Toronto in 1973, when a 'body packer' who had swallowed a condom containing hashish developed small bowel obstruction (Deitel and Syed, 1973).

The cocaine body packer poses problems for the clinician both in terms of diagnosis and management.

Discussion

Body packers are now identified at London Heathrow Airport with a frequency of approximately 5–8 individuals per week, with cocaine being the most frequent drug smuggled by this method (HM Customs, personal communication, 2008). Most are asymptomatic and are detained on legal or immigration issues. Investigations performed at the airport include urine testing and plain radiographs (sensitivity of 85–90%) (Bogusz et al, 1995). Nigeria has now overtaken Jamaica as the most common point of origin for body packers arriving in the UK.

Body packers can carry up to 1 kg of drug divided into 50 to 100 packets of 8–10 g each, although persons carrying greater than 200 packets have been described (Bulstrode et al, 2002). Each individual packet contains a potentially fatal dose (1–3 mg) of drug (Lancashire et al, 1988). Several post-mortem studies have suggested that the majority of body packers who suffer packet rupture will die before reaching hospital (Schaper et al, 2007).

Dr Simon TC Peake *is Specialist Registrar in Gastroenterology,* **Mr Saroj Das** *is Consultant Vascular and General Surgeon, The Hillingdon Hospital, Uxbridge, Middlesex UB8 3NN,* **Dr Shaun Greene** *is Associate Specialist in Clinical Toxicology, Guys and St Thomas' Poisons Unit, London and* **Dr Simon W Dubrey** *is Consultant Cardiologist, The Hillingdon Hospital, Uxbridge, Middlesex*

Correspondence to: Dr STC Peake

Patients with no evidence of drug toxicity can be left to pass packets naturally or have simple laxatives. Alternatively, whole bowel irrigation with polyethylene glycol (Klean-Prep) is recommended for un-ruptured packets at a rate of 2 litres/hour (National Poisons Information Service, 2002). This can be administered orally or by nasogastric tube and continued until the rectal effluent resembles the irrigating solution (usually within 2–6 hours) and a repeat abdominal radiograph is clear.

Figure 1. Plain abdominal radiograph showing multiple drug-filled packets throughout the gastrointestinal tract.

Whole bowel irrigation is not recommended in cases of obvious packet rupture. In these cases the patient should be treated medically while en-route to surgery, the objective being to stabilize the patient for a general anaesthetic. Activated charcoal (50 g) may be useful in absorbing small amounts of drug leaking from packets that are otherwise intact (National Poisons Information Service, 2002). In the case of cocaine ingestion, repeated doses of activated charcoal may be beneficial. Endoscopy is not recommended because of the risk of packet rupture, but it may be considered (using a basket) if a packet will not pass through the pylorus.

Specific management issues

Psychomotor agitation requires treatment with benzodiazepines. An initial intravenous dose of diazepam 5 mg is recommended, followed by increments of 2.5–5 mg titrated against agitation every 10–15 minutes. High doses of diazepam may be required (>50 mg). Similarly, lorazepam is given at an initial dose of 1–2 mg intravenously, followed by increments of 0.5–1.0 mg, with possibly >20 mg being required. Neuroleptics should be avoided as they interfere with heat dissipation and may lower the threshold for seizure activity.

Hypertension, if not controlled by benzodiazepines, should be treated with intra-

Case Report

A 43-year-old Afro-Caribbean man was behaving oddly in the arrivals lounge at London Heathrow Airport. He was agitated, sweating profusely and disorientated. Urinalysis was positive for cocaine, and he was transferred to the local accident and emergency department.

On arrival, he was hyperactive, tachycardic (rate 140/min), hypertensive (blood pressure 235/140 mmHg) and agitated. A plain abdominal radiograph identified multiple, well-defined objects throughout the gastrointestinal tract (*Figure 1*) with no evidence of bowel obstruction.

Whole bowel irrigation with polyethylene glycol (2 litres/hour orally) was started. The patient remained agitated and hypertensive despite aggressive medical treatment for cocaine toxicity using intravenous diazepam (total 45 mg intravenously over 2 hours) and glyceryl trinitrate (maximum infusion rate 8 mg/hr).

Following surgical consultation, it was decided to perform a laparotomy (*Figures 2a* and *b*). In total, 89 packets of cocaine were surgically removed from the stomach, small and large bowel (*Figure 2c*), with an estimated street value of £50 000–100 000 depending on purity. Postoperatively the patient made an uneventful recovery.

Figure 2. a. Intraoperative photograph of intact bowel at laparotomy. b. Packet being 'milked' via enterotomy. c. Packets recovered postoperatively.

venous glyceryl trinitrate (0.25–0.50 μg/kg/min). Other agents used to treat hypertension include the alpha-adrenergic antagonist phentolamine (0.05–0.10 mg/kg/min), calcium-channel antagonists and vasodilators such as intravenous nitroprusside (0.3–3.0 μg/kg/min). Beta-adrenergic antagonists and combined alpha- and beta-adrenergic antagonists (including labetolol) are contraindicated, as they may result in unopposed alpha receptor effects of cocaine and worsening of hypertension (Albertson et al, 2001).

Myocardial ischaemia should be treated with oxygen, aspirin, benzodiazepines and nitroglycerin. Second-line agents include verapamil and phentolamine which may reduce coronary artery vasospasm. Coronary angiography may be necessary to differentiate coronary vasospasm from occlusive disease.

Ventricular dysrhythmias resulting from cocaine may respond to sodium bicarbonate, lidocaine or other antiarrhythmic agents. Class Ia antiarrhythmic drugs, such as quinidine and procainamide (rarely used in the UK), should be avoided in cocaine toxicity, as these may further prolong the QRS and QT intervals (one of the actions of cocaine).

Surgical consultation is indicated for patients with gastrointestinal obstruction, perforation or leakage of a drug-containing packet. During surgery, one or more enterotomies are made and the intestinal contents are 'milked' towards the incisions or the anus. After surgical emptying, a final radiographical study is mandatory to ensure the gastrointestinal tract is clear.

Conclusions

The international transportation of illicit drugs by internal concealment is an increasing problem in the UK. Frequently the individuals are asymptomatic, but symptoms can develop rapidly following leakage or rupture of packets.

Since maximal medical therapy can be inadequate to antagonize the lethal effects of cocaine, immediate surgical intervention is usually required. In retrospect, the authors feel that their attempts at aggressive medical management delayed the patient's transfer to theatre and that a surgical option could have been pursued earlier. They suggest that all such cases be discussed early with a regional poisons centre. **BJHM**

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