LETTERS TO THE EDITOR

Recommendations on gastric decontamination in acute intoxication

To the Editor:

Acute intoxication is an everyday reason for consulting the emergency department (ED) and any studies on the epidemiological, clinical and therapeutic aspects of this condition are worthy of our attention; this is the case with the excellent article recently published by Burillo et al, providing an update on acute intoxication and the decontamination techniques most frequently used in Spanish hospitals[1].

Few studies have analyzed ED gastric decontamination techniques and compliance with the recommendations of the European Association of Poison Centres and Clinical Toxicologists (EAPCCT) and the American Academy of Clinical Toxicology (AACT). However, at Hospital Clínic, Barcelona, gastric decontamination techniques for acute intoxication have been studied for a number of years. Our initial studies, based on the previously cited recommendations, compared the advantages of activated charcoal, administered alone, as a single oral dose, against other decontamination techniques; this work led to our first algorithm of recommendations for gastric decontamination due to medication ingestion, which considered the type of drug, the time lapse before consulting, and the clinical state of the patient[2,3]. We subsequently evaluated the impact of applying this algorithm on the evolution of toxin concentration in plasma, and which technique avoided absorption of the medication, as well as their secondary effects. Those studies concluded that oral charcoal was the treatment of choice for most cases of intoxication due to medication ingestion[4,5].

All this produced changes in our attendance procedures, as shown in a comparative study[6]. From this and other research performed conjointly with Hospital de Son Dureta de Palma de Mallorca, quality indicators of attention for acute intoxication (CALITOX) were elaborated, together with members of the Sociedad Española de Medicina de Urgencias y Emergencias and the Sección de Toxicología Clínica de la Asociation Española de Toxicología[7,8].

Recent data obtained by the ED, Hospital Clínic, show that oral ingestion accounted for 79.4% of cases, but gastric decontamination was only used in 22.1% of the patients. The most frequently used technique involved activated charcoal, with oral administration in 88.1% and nasogastric tube in 8.5%[6,9]. These data are similar to those previously reported; in 2006 gastric decontamination was performed in 23.2% of toxin ingestion. Decontamination was performed with oral activated charcoal in 85.2% of cases and with nasogastric tube in 11.6%; although 3.8% of the patients receiving activated charcoal presented an adverse reaction – vomiting – no episode of broncho-aspiration was recorded[7]. In 2004, oral activated charcoal was again the most frequently used agent (71.6%)[4].

On the one hand, these results show compliance with the EAPCCT/AACT recommendations at Hospital Clínic de Barcelona, and on the other that the assertion by Burillo et al that their study is the first to show activated charcoal to be the most commonly used gastric decontaminant in Spain is not true. However, their meritorious, multi-centre, national study confirms the improvement in gastric decontamination techniques for acute intoxication and the compliance with international recommendations, which is a credit to our ED physicians, particularly those contributing to this change by making their research known.

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Slight head injuries in the emergency department and rules of clinical decision

To the Editor:

We have read with interest the article by Cubián et al on slight head injuries attended by a short stay unit in an ED[1]. The study contributes to knowledge about this clinical problem in Spain, thus differentiating it from foreign case reports and series which probably differ in incidence, causes, financial healthcare criteria, legal consequences and physician training of those attending such patients[2]. Given the high incidence and relevance for ED staff of this clinical situation, we wish to contribute some reflections on the study.

Firstly, we would have expected more information on statistical data: despite commenting, in the discussion section, the lack of correlation between loss of consciousness and amnesia with pathological CT scan or referral to a neurosurgical centre, these data do not appear in the results. Also, it would have been interesting to know about the degree of association between the rest of the symptoms and/or the lesions detected by CT scan with the corresponding Glasgow Coma Score (GLS). Another important aspect that was omitted is an analysis of the relation between drug ingestion and GCS, with alarm symptoms or lesions associated with substance abuse. However, the statistical power of these relations may have been low due to the small sample size.

Secondly, in conclusions the authors affirm that short-stay units (SSU) are the ideal places for symptom and evolution control of patients with slight head injuries. Even though we agree, it seems that this conclusion cannot be derived from the results. Beforehand, one needs to clarify the reasons behind the 7-day range in stay period, which is a priori incompatible with the criterion for SSU admission[3]. Perhaps the absence of a section on the limitations of the study is related to all the above.

Regarding the discussion, the authors rightly refer to some large studies on the topic in the literature. However, they did not make any reference to the rules of clinical decision on the need for CT scan that these studies have generated, which probably inspired the study and the inclusion criteria giving rise to the sample selection, as well as appearing in the conclusions as desirable.

In this respect, various research groups have developed validated clinical criteria to determine which patients should receive a cranial CT scan after slight head injury. The most important are the Canadian criteria (Canadian CT Head Rule –CCHR–)[4,5] and the New Orleans criteria (NOC)[6].

The Canadian criteria were validated using a data base of 5,828 patients. According to these criteria, CT scan should be performed in slight head injury cases presenting one of the following: GLS of < 15 two hours after the injury; suspected open or depressed cranial fracture; any sign of basal cranial fracture; two or more episodes of vomiting; age 65 years or more; anterograde amnesia of the event lasting 30 minutes or more; "dangerous" mechanism (involving impact with, or falling from, a moving vehicle, fall from a height > 90 cm or down > 5 stairs/steps). CT scan is mandatory for all patients with: neurological focality, convulsions, intoxication by alcohol/drugs, coagulation disorder or receiving oral anticoagulants, although patients with these conditions were not included in the original study population used to develop and test the CCHR criteria.

In the NOC recommendations, CT scan is mandatory for those patients with vomiting, 60 years of age or more, or anterograde amnesia, as well as those presenting headache, alcohol/drug intoxication or visible clavicular lesions.

The two sets of CT decision rules have been compared with patient samples of around 3,000 patients[7,8]; sensitivity obtained was around 100% for both CCHR and NOC for the detection of important brain damage requiring neurosurgery. However, CCHR has shown higher specificity (88% vs 52.1%), thus generating a lower rate of brain scans.

A third CT head rule, developed in a European setting, has recently been published by a Dutch group, called the CHIP prediction rule, which also provides guidance on the need for CT scan after slight head injury[9,10]. In our opinion, this is a promising head rule since it was not designed just for patients suffering loss of consciousness or amnesia; it is currently pending external validation.

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Hypovolemic shock and splenic hydatidic cyst

To the Editor:

We have read with interest the study by Laguía et al[1] published by your journal in December 2007. As indicated by the authors, the incidence of anaphylactic shock in hydatidosis (1-7.5%) is low, but its debut with hypovolemic shock is even more unusual; in fact there are very few published reports on this.

Case report: A 62-year-old woman with no relevant clinical history or previous trauma presented at our ED with general malaise, diffuse abdominal pain of various hours evolution, paleness, cold sweat, hypotension and tachycardia.

Laboratory tests showed haemoglobin 9 g/dL, haematocrit 27%, leucocytosis 12,500/mm^3 and neutrophils 74%. Abdominal echography showed a moderate amount of free peritoneal liquid compatible with haemoperitoneum. The liver, gall bladder and kidneys were normal. The spleen showed de-structuration of the inferior pole and a partly calcified rounded object of ± 12 cm which displaced the splenic tissue peripherally. Emergency mid laparotomy revealed splenomegalia and inferior capsule rupture, with wide bleeding lesions. Splenectomy was performed, with abdominal cavity irrigation and a drainage tube was placed in the surgical wound. Patient evolution was satisfactory. The anatomic pathology report showed a 14.5 cm spleen with inferior zone rupture and a hydatidic cyst, with intact but partially calcified walls, occupying the central area of the spleen. No other parenchymal alterations were observed.

Spontaneous splenic rupture is a rare condition generally associated with neoplasia, particularly haemangiosarcoma[2,3]. There are also isolated reports of splenic rupture in true non-parasitic cysts[4].

The simplicity, availability and utility of echography make it the most commonly used technique to diagnose hydatidosis, solid organ lesions (especially the liver and spleen) and to detect even small quantities of intra-abdominal liquid.

The few published cases of splenic hydatidosis causing haemoperitoneum involved previous trauma and/or cyst rupture[5,6] in contrast to our case, which was spontaneous and, in addition, involved an intact cyst. Despite the calcified walls, the parasite may have still been alive and increasing in size. The main pathogenic mechanism is this growth, affecting the surrounding tissue by a mechanical "mass effect" action[7] as occurred with our patient who presented hypovolemic shock due to haemoperitoneum after splenic rupture induced by a giant hydatidic cyst situated within the spleen.

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Body packer: diagnostic difficulties in a high-risk situation

To the Editor:

The term body packer refers to an individual who uses the body to conceal and transport illegal drugs. It should be distinguished from body stuffer,

which refers to a person carrying a wrapped substance that is hurriedly swallowed, usually on being approached by the police, and from the term body pusher used to describe a person carrying drug packets concealed in the rectum or vagina[1]. The most common drugs involved are cocaine and heroin, although others have also been described including amphetamines and cannabis[2]. The first body packer case described in medical literature was reported in 1973, Toronto, with small bowel obstruction occurring three days after ingestion of hashish-filled condom[3]. Since then, this type of traffic has increased and evolved in tandem with growing psychotropic consumption and world-wide travel[4].

A body packer may suffer complications, both mechanical (intestinal obstruction) and toxicological (after packet rupture), which must be taken into account by the attending physician. The diagnosis of drug-packet ingestion is habitually made by simple abdominal radiography, but this test may present false positive and false negative results[5].

We present the case of severe cocaine intoxication due to packet-rupture in a body packer with false negative simple abdominal radiography.

A 51-year-old man presented psychomotor agitation in public near a railway station. On arrival of the police, the man showed tachycardia and hypertension. He reported having ingested fifty "balls" of cocaine; given the agitation, he was sedated with midazolam and haloperidol, then transferred to a hospital ED. On arrival he was awake, greatly agitated and showed psychotic symptoms. Physical examination showed blood pressure 147/79 mmHg, cardiac frequency 130-140 bpm, pulsioximetry oxygen saturation 94%, mydriatic pupils, non-painful abdomen and no signs of peritonism. Acute cocaine intoxication was suspected; abdominal radiography was negative. Blood test showed no significant alterations but toxicological urine test was positive for cocaine, benzodiazepine and amphetamines. Neurological deterioration led to the administration of sedative, muscle relaxant, orotracheal intubation and mechanical ventilation. Body packer syndrome was suspected, motivating an abdominal CT scan which revealed seven hyper dense objects measuring 4 x 1.5 cm in the stomach and one more in the jejune (Figure 1). He was immediately transferred to the theatre for emergency laparotomy. Seven packets (one ruptured) were removed by gastrostomy and another (intact) by enterotomy. No incidents were recorded during postoperative evolution; the patient was always awake and oriented, afebrile and haemodynamically stable.

The presence of a body packer in an ED may be due to various causes. After detection in an airport equipped with a radiological device, they may be asymptomatic but brought for evaluation and monitoring until complete rectal excretion of the drug packets. Alternatively, they may present gastro-intestinal symptoms such as vomiting, abdominal pain due to mechanical obstruction or upper digestive tract haemorrhage caused by prolonged lodgement of a large packet in the gastric mucosa that could not pass through the pylorus[6]. Finally, as in our case, the body packer may present systemic symptoms of acute intoxication following packet rupture, including cocaine-induced agitation, arrhythmia or convulsion, or lowered level of consciousness and respiratory depression induced by heroin[7,8]. These latter situations constitute what is known as body packer syndrome[9]. Although the initial therapeutic approach is conservative, the need for emergency surgery must be considered in the event of persistence or progression of overdose symptoms[10]. The first test to be performed is simple abdominal radiography. Experimental studies have shown that the radiological density of the drug largely depends on the substances with which it has been mixed[12]. In order to avoid detection, drug traffickers incorporate materials such as aluminium foil, transparent plastic or carbon paper to alter the radiological density of the packets ingested[4,13]. The probability of radiological false negatives increases in cases of body stuffers, which require the use of other more sensitive and specific tests to confirm the diagnosis.

The normal ED approach is to screen the patient first with simple abdominal radiography; if negative but there is a high index of suspicion, abdominal CT scan is performed, although false negatives have also been described for this test[14]. Other diagnostic options include initial screening with echography and barium meal transit test[15,16]. Regarding the latter test, its sensitivity is high, up to 96%, but rules out subsequent CT scan[17]. Lastly, a somewhat controversial test should be mentioned: toxic urine analysis. Although it may be most useful to identify the packet content, it may also be misleading since body packers often consume drugs and/or anxiolytics for the journey[18]. Diverse studies have reported sensitivity ranging between 40 and 90%, which means that urine analysis is not recommended as a screening test[4]. However, it continues to be used in many ED services as a complementary test that provides important information in a high-risk situation[6].

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Cervical subcutaneous emphysema as a complication of diagnostic colonoscopy

To the Editor:

Subcutaneous emphysema (SE) of the neck in adults is usually due to pharyngoesophageal, laryngotracheal or tracheobronchial tree trauma, Ludwig's angina, oesophageal perforation or diving accidents[1].

A 76-year-old man with no relevant clinical history underwent colonoscopy during the study of haematochesia; no suspicious lesions were found, so tissue biopsy was not required. He presented at ED two hours later for a swollen neck, without respiratory difficulties, pain or other symptoms. Physical examination showed haemodynamic stability and auscultation was normal. The abdomen was soft and palpable, without pain, but there was a marked increase in neck volume, with crepitus. Radiological study showed pneumoperitoneum, pneumomediastinum and cervical SE (Figure

Figure 1. Radiological image showing pneumoperitoneum, pneumomediastinum and subcutaneous emphysema of the neck (arrows).

1). On suspicion of iatrogenic perforation of the colon, the patient was admitted to hospital, receiving conservative treatment and prophylactic antibiotics. Evolution was good; the SE almost completely resolved and he was discharged on the 7th day after admission.

SE secondary to abdominal hollow organ perforation is rare; incidence after therapeutic colonoscopy is only 0.07-2.14% of cases, reducing to (0.03-0.65%) for diagnostic colonoscopy[2-7]. When the volume of free air in the abdomen is sufficiently great, it may ascend via anatomic hiatus of the diaphragm, drying out the tissue up to the cervical area. The symptoms depend on location: if the perforation is intraperitoneal, abdominal pain and signs of peritonism are likely, while retroperitoneal perforation may be asymptomatic[6,7]. The treatment of small perforations (intra- or retroperitoneal), with previous colon preparation and stable patient condition, is conservative. Surgery is indicated in cases of acute abdomen, large perforations or late diagnosis (> 24 hours of evolution) because of increased risk of faecal contamination[8,9].

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