

On cocaine consumption: perspectives

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The growing use of cocaine in Spain has created a political, social and health care crisis of unwavering proportions. During the most recent decade, rising trends of cocaine abuse has earned Spain the unfortunate designation as the cocaine capital of Europe. In 1999, cocaine surpassed heroin as the illegal drug most frequently mentioned during emergency department visits¹. By 2004, cocaine was the most common illegal drug directly responsible for hospital visits in Spain; representing 49.6% of all drug related emergencies. Similarly, the percentage of people who died from any acute drug reaction in whom cocaine, or its metabolites, were found increased dramatically from 32% in 1996 to 60% in 2004¹. By 2005 cocaine use was cited as the most common illegal drug among Spanish people seeking admission to drug abuse treatment programs, and was responsible for over 40% of cases, which represented a six fold increase when compared to 2002^{1,2}. According to United Nations statistics, in 2006, 3% of Spain's population between the ages of 15 and 64 years, used cocaine – a number that surpassed the United States for the first time².

During this time, the quantities of cocaine seized by Spanish authorities markedly increased, suggesting that the country is being intentionally flooded with this lethal toxin. In response to increasing demand and a seemingly limitless supply, cocaine prices remained stable or even decreased slightly¹. Thus, as expected, when the highly addictive nature of cocaine is combined with social and market pressures, easy availability and low cost, that the prevalence of cocaine use and the total number of users has skyrocketed.

The cocaine problem is no different than many other political and social problems in that it ultimately impacts on the health care system. Although all aspects of the health care system are in-

volved, the emergency physician must be able to rapidly adapt to changing drug use patterns in their communities and begin to understand how drug use alters the practice of medicine. Two articles in this issue of *Emergencias* begin to explore the impact of cocaine use on emergency departments in Spain.

In one of the largest retrospective studies of cocaine use performed, Galicia and colleagues explore the epidemiology of cocaine related emergency department visits. The authors discuss how cocaine's persistence has consumed an appreciable amount of Spain's medical resources over the last 6 years, with no sign of relief. They note that the predominant symptoms manifested by cocaine using emergency department patients are either neuropsychiatric or cardiovascular in nature. However, it should be noted that the sympathetic-stimulating effects of cocaine can produce clinical consequences in virtually all organ systems that include hyperthermia, tachycardia, hypertension, intracranial hemorrhage, vascular dissection, myocardial infarction, arrhythmias, rhabdomyolysis, and death. The authors note that many emergency department visits require admission to psychiatric, medical, surgical and intensive care services, reflecting a burden that is shared across multiple medical disciplines.

Physicians are constantly challenged by the complex healthcare needs of cocaine using patients. The high prevalence of cocaine use necessitates that clinicians consider whether their patient's condition might be related to cocaine use. Furthermore suspicion or confirmation of drug use warrants special consideration in the planned management strategy of any given patient. In the second paper, Burillo-Putze and colleagues highlight that as many as 20% of patients presenting to the emergency department with cardiac chest pain or

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trauma never disclose their cocaine use. This critical information forces a simple consideration: What should be done differently if I knew that this patient was using cocaine? For example, potentiating cocaine-associated vasoconstriction is a risk in treating chest pain patients with beta-adrenergic antagonist. Unopposed alpha-adrenergic stimulation maybe deleterious and represents one of the more consequential drug interactions of the modern era. Whereas beta adrenergic antagonist therapy represents one of the corner stones in the management of patients with acute coronary syndromes, their use in cocaine associated chest pain is therefore contraindicated³ The consequences of this action can be lethal^{4,5}. Likewise, cocaine may alter the normal adrenergic response to blood loss in trauma patients. In acute intoxication it may mask signs of traumatic hemorrhage by blunting the hypotensive response, or, in chronic use it may blunt tachycardia, potentially leading to false reassurance and delay in management^{6,7}. The occult cocaine user described by Burillo-Putze and colleagues must now be consider a common and clinically relevant entity by physicians practicing in Spain.

Climate and ambient temperature must also be considered when planning health care policy. As noted by Galicia et al. there was an increase in cocaine related emergency department visits during the prime summer months of July and August. Although it is possible that cocaine use is more common in the warm weather, clinicians must now consider hyperthermia, as it is clearly demonstrated that higher ambient temperatures are associated with a significant increase in mortality from cocaine overdose⁸. Although Galicia et al was unable to demonstrate the increase in cocaine related deaths that were described in the summer months in New York City, deaths prior to hospital arrival were not included in the study design. Certainly, this is an area in need of further research Spain. Clinically, this means that accurate core temperatures are now immediately required in severely agitated patients as the failure to diagnose and treat hyperthermia can be devastating.

As ethanol use is common, clinicians must also consider the effects of simultaneous use of cocaine and ethanol, which produces the longer lasting more potent toxin (cocaethylene) that may contribute to delayed cardiotoxicity^{9,10}. Galicia and colleagues demonstrate that 72% of all patients who presented to the emergency department with cocaine related complaints had also co-ingested ethanol. This valuable epidemiological insight provides essential guidance for medical decision making.

Patient age provides the frame of reference for many judgments in medicine. For example, the potential for vascular disease is often overlooked in young patients. Cocaine use changes that frame of reference. Typically, cocaine users are significantly younger than other patients with acute coronary syndromes¹¹. Burillo-Putze and colleagues were able to demonstrate that cocaine using chest pain patients were significantly younger than non-cocaine users. This growing population of young cocaine users will recurrently utilize of health services either for the acute symptoms, treatment to address the abuse itself or for the treatment chronic cardiovascular disease in the future. Although they have a relatively low incidence of myocardial infarction for each event, follow-up suggests recurrent chest pain is common especially in those who continue to use cocaine¹¹. Although Burillo-Putze and colleagues were unable to demonstrate a marked variation in health care costs during the acute phase of emergency treatment the repercussions of cardiovascular disease and chronic cocaine use on health care costs has yet to be defined. It can be postulated that the growing burden of cocaine use in the younger Spanish community will be a primarily social and economic burden¹².

Emergency physicians in Spain or elsewhere cannot be expected to eradicate the global problem of substance abuse. We can, however contribute to an understanding of the social, political and financial impact of substance abuse. We can understand the risks that substance abuse poses for our patients and be knowledgeable about its clinical effects and treatment. The current papers by Burillo-Putze and Galicia make substantial progress in this direction. We must remember, however that cocaine is a chronic disease whose clinical manifestations will recur even after entirely successful treatment of acute complications. As such, it is essential that we advocate for detoxification, programs designed at maintaining abstinence and research into new methods to break the cycle of addiction. Every hospital visit for a cocaine related problem should include a referral for detoxification. For without an attempt at detoxification, we have only addressed the surface of the problem.

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