



PRESS  
RELEASE

# Ivory wave: the next mephedrone?

Mark Durham

## Correspondence to

Mark Durham, C/O Brighton  
Ambulance Station, Elm Grove,  
Brighton BN2 3EU, UK;  
mark.durham@secamb.nhs.uk

Accepted 1 February 2011

## ABSTRACT

**Background** Since the classification of miaow miaow (mephedrone) as a class B drug in April this year, a new drug is emerging as a so-called 'legal high'. Deaths have already been attributed to ivory wave in different parts of the country.

**Method** A case study is presented, and relevant literature is explored in order to better understand the drug and its effects in the human body.

**Results** Overstimulation of the nervous system can cause acute paranoid psychosis, dizziness, hyperthermia and potential fitting. Effects on the cardiovascular system include tachycardia, chest pains, S-T segment changes, and blood pressure variations with potential renal implications.

**Conclusion** Ivory wave's popularity seems to be growing and it seems quite plausible that this drug could become 'the next mephedrone'. Clinicians should be aware of its likely presentations, dangers, and management.

## INTRODUCTION

Since the classification of miaow miaow (mephedrone) as a class B drug in April this year, a new drug is emerging as a so-called 'legal high' under the name ivory wave, purple wave, ivory coast or vanilla sky. It is marketed as bath salts and can be snorted or ingested. Whether or not this drug in fact contains illegal ingredients is as yet unclear. The drug's effects are concerning however, and have been seen in patients in Lothian, Cumbria, Dorset and Essex. The case below occurred in a city where the drug had not been reported before. It is presented here to increase awareness of a drug which seems to be rapidly gaining popularity, with reported cases spreading across the UK.

## CASE REPORT

A patient presented in a police custody suite complaining of sudden onset of palpitations and chest pain having snorted a drug earlier that day. The patient was extremely agitated and suffering from involuntary facial contortions, hallucinations, profound anxiety and chest pain. The patient appeared hypermetabolic, breathing 28 times per minute, with a pulse between 115 and 160 beats per min and a blood pressure of 160/90 mm Hg. The temperature was recorded at 37.4°C, and the pupils were sluggish at 5 mm. The patient's ECG showed 2 mm S-T depression in the anterior leads.

It was initially believed that the patient had taken cocaine, and so sublingual glyceryl trinitrate and intravenous diazepam were given in accordance with the Joint Royal Colleges Ambulance Liaison Committee.<sup>1</sup> Glyceryl trinitrate made no difference, but 10 mg diazepam provided some symptomatic

relief. The patient calmed a little and later admitted to having snorted 2 g of ivory wave.

## DISCUSSION

Ivory wave was first found in circulation by West Cumbrian police, and earlier in 2010 St James' Hospital in Dublin analysed a compound branded as ivory wave. The drug contained a cathinone derivative (methylenedioxypropylvalerone, MDPV) and lignocaine.<sup>2</sup> If this combination wasn't concerning enough, hearsay seems to suggest that actually there is no set 'recipe' for ivory wave as drugs sold as such can contain any number of unknown substances.<sup>3-4</sup> This variability in presentation supports fears that batches branded as ivory wave can vary hugely in composition. MDPV can show effects in doses as low as 5 mg in an average person.<sup>5</sup> Ivory wave is sold on the internet in £15 packets of 200–500 mg,<sup>6</sup> and the patient reported having taken 2 g of this drug.

Ivory wave is a powder in appearance, and can be white, tan or grey.<sup>5</sup> Reported effects include initial euphoria, followed by other symptoms occurring as much as a day after taking the drug, and persisting for as long as a week. An NHS Electronic Library for Medicines (NELM) alert warns that such symptoms can include overstimulation of the nervous system (acute paranoid psychosis with extreme agitation and insomnia, dizziness, hyperthermia and potential fitting) as well as overstimulation of the cardiovascular system (chest pains, blood pressure variations and potential renal implications).<sup>7</sup> The NELM alert suggests supportive symptomatic management of the effects of this currently little known drug. This could be difficult however, as the agitation and paranoia has been reported to spur patients to assault hospital staff, convinced that they are trying to harm them.<sup>8</sup>

Ivory wave has been implicated in the death of a man found by a fishing boat off the coast of the Isle of White, who was believed to have jumped off a cliff. He had taken ivory wave 2 days before, and according to his mother had been experiencing extreme hallucinations, psychoses and neuroses ever since.<sup>9</sup>

Several hospital admissions have been reported in Wales and Scotland, and a second death from the drug has been reported in Essex. The victim's mother states that she became dependent on the drug while taking it as a slimming aid.<sup>4</sup>

It seems quite plausible that this drug could be the 'next mephedrone'. Reports reveal that its popularity has been gaining and its use spreading across the UK in recent months. In light of this clinicians should be aware of its likely presentations, dangers and management.

**Competing interests** None.

**Provenance and peer review** Not commissioned; not externally peer reviewed.

## REFERENCES

1. **Joint Royal Colleges Ambulance Liaison Committee.** *UK Ambulance Service Clinical Practice Guidelines*. Warwick: University of Warwick, 2006.
2. **Kavanagh PV,** McNamara S, Angelov D, et al. *The Characterization of 'Legal Highs' Available From Head Shops in Dublin*. 2010. [http://addictionireland.com/\\_fileupload/publications/Legal\\_Highs\\_Poster.pdf](http://addictionireland.com/_fileupload/publications/Legal_Highs_Poster.pdf) (accessed 27 Nov 2010).
3. *Talk to Frank website*. 2010. <http://www.talktofrank.com/drugs.aspx?id=8047> (accessed 26 Nov 2010).
4. **Porter R.** *The Bride Killed by Bath Salts—The New 'Legal High' Ivory Wave Drug that's Sweeping Britain*. Daily Mail, 2010:17.
5. **Institute of Psychiatry Psychonaut WebMapping Research Group.** *MDPV Report*. London: King's College London, 2009.
6. *Amsterdam Highs Co Advanced Herbal Science*. 2010. <http://am-hi-co.com/acatalog/ivory-wave.html> (accessed 26 Nov 2010).
7. **Radia H.** *National Electronic Library for Medicines. CAS Alert: Management of Patients Using "Ivory Wave" and Other "Legal Highs"*. 2010. <http://www.nelm.nhs.uk/> (accessed 27 Nov 2010).
8. **Parry R.** *Mirror News. Doctors Warn Mind-bending Legal High Ivory Wave Could be Worse than Meow Meow*. 2010. <http://www.mirror.co.uk/news/top-stories/2010/08/18/doctors-warn-mind-bending-legal-high-ivory-wave-could-be-worse-than-meow-meow-115875-22494806/> (accessed 28 Nov 2010).
9. **Jones S,** Power M. *Guardian Website. Ivory Wave Drug Implicated in Death of a 24 Year-old-man*. 2010. <http://www.guardian.co.uk/society/2010/aug/17/ivory-wave-drug-alleged-death> (accessed 26 Nov 10).