



Case Report of an Acute Psychosis Episode Induced by Emerging Cathinone-Like Designer Drug Available on Internet

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The use of designer drugs commonly marketed as 'Bath Salts' has dramatically risen in recent years. Several different synthetic cathinone derivatives have been identified in these products, including methylenedioxypyrovalerone (MDPV). These designer drugs are available on the Internet and thus become more and more popular among young adults. Such synthetic drugs could also be used as chemical submission agents for criminal or delictual purposes, mainly drug-facilitated sexual assault. Fatalities and cases of aggressive behavior, even cannibalism, have been recently reported in the media. However, these cases have been poorly documented. Indeed, the detection of these substances requires specific analyses such as gas or liquid chromatography combined with mass spectrometry and so is not systematically realized in psychiatric departments. In this presentation, we report a case of a cathinone-like designer drug leading to an intoxication psychosis.

CASE: In June 2012, "Mr M.", a 47-year-old man, was admitted in the psychiatric emergency department for behavioral changes with delirious thoughts and psychomotor agitation. He suffered an acute episode of delirium with both persecution and megalomaniac themes. The patient was oriented in space and time. Standard blood analysis was normal. The initial urinalysis based on immunology colorimetric assay did not detect any toxic, including amphetamine and ecstasy. Analyses of patient's serum by gas chromatography-mass spectrometry detected the presence of two synthetic cathinone derivatives: methylenedioxypyrovalerone (MDPV) and pentylone (PV) (Fig. 1). Psychiatrists decided a forced admission to a psychiatric unit. Agitation decreased a few hours later, after an antipsychotic (loxapine) and benzodiazepine (diazepam) sedation. The following day, delirious thoughts had completely disappeared and began to be criticized by the patient. He was then quite sensitive to the sedation treatment so that clinicians quickly stopped it. Anamnesis revealed that psychotic episode occurred after a consumption of a 500 mg dose of NRG 3 purchased from a UK-based website called "Energy 3" (NRG 3: composed by mixture of MDPV and PV)(Fig. 2).

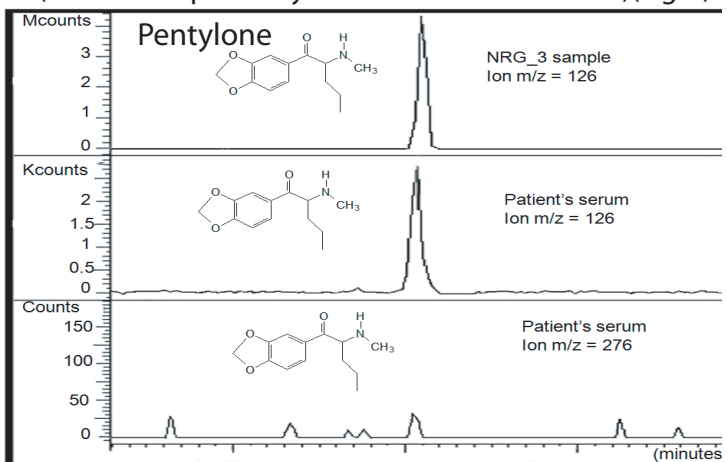


Figure 1. Detection of MDPV by GC-MS analysis in patient's serum

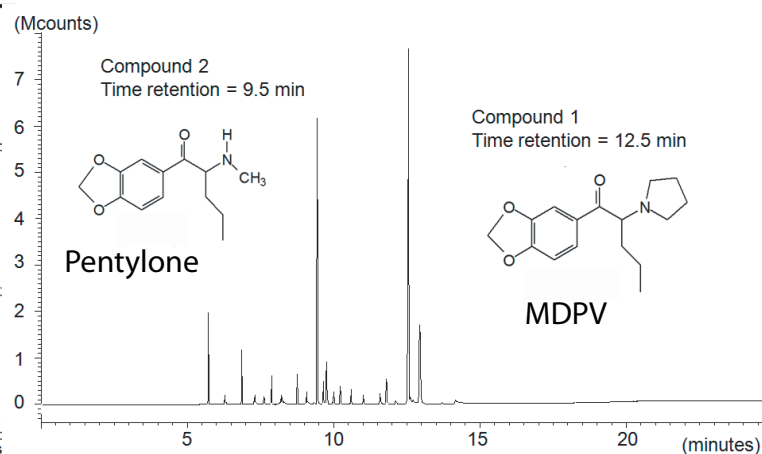


Figure 2. GC-MS analysis of NRG 3 sample

DISCUSSION: NRG 3 is used as a psychostimulant and antidepressant. Intoxication by cathinone-like drugs causes brief psychotic episodes characterized by a sudden onset, short lasting with a quick disappearance after substance withdrawal, the polymorphic themes and mechanisms of delirious thoughts, and a psychomotor agitation. After analysis by GC-MS, the presence of MDPV and PV was detected in the patient's serum.

CONCLUSION: This clinical case shows the psychiatric effects of an emerging cathinone-like designer drug available on the Internet, called NRG 3. Given the growing number of cases of described in the literature, clinicians should be aware of this phenomenon. The screening of these substances requires a strong collaboration between clinicians and toxicologists.