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Psychiatric complications of 'Ecstasy' use

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Two case reports are presented of significant psychiatric disorders associated with ingestion of 'Ecstasy' (3,4-methylenedioxymethamphetamine), a recreational drug whose use appears to be increasing. In one case, the patient developed a brief paranoid psychosis which recurred and persisted for at least a month after he took a second dose of the drug. In the other, the patient experienced persistent symptoms of anxiety and depression for >8 weeks after taking the drug.

Key words: Ecstasy; 3,4-methylenedioxymethamphetamine; MDMA; psychosis; anxiety; affective disorder

Introduction

'Ecstasy' (3,4-methylenedioxymethamphetamine, MDMA, MDM, M, XTC, Adam) is an amphetamine derivative which is increasingly used as a recreational drug (Peroutka, 1987); seizures of Ecstasy by Customs investigators increased 35 times in 1991 (Anonymous, 1992). As it has been found to have toxic effects on the serotoninergic neurons of rats and primates (Molliver *et al.*, 1990), concern has grown about its possible toxicity in humans, and the drug is now controlled in both the UK and the USA. Despite a wealth of data about its effects in animals, and a growing number of reports of its use, remarkably little is yet known of its short- and long-term effects in humans.

Here we report recurring paranoid symptoms following Ecstasy use in a young man who specifically wanted to find out whether this drug had been the cause of psychotic symptoms which he had experienced after previous use of the drug. Case 2 below describes a prolonged episode of anxiety and depression in a young woman who was using Ecstasy.

Case 1

A 24-year-old male teacher with no previous personal or family psychiatric history was admitted to hospital 4 days after he took Ecstasy in a night-club in order to find out whether it would have the same effect on him as the previous time he had taken it 1 month earlier. Although he had suffered no ill effects from previous use of LSD (lysergic acid diethylamide) alone, when he had taken Ecstasy and LSD together about a month before the present episode he had had difficulty concentrating and for ~3 days had believed that people were out to get him. He had been admitted to hospital but refused to take any medication, recovered fully, and was discharged a few days later. One month later he took Ecstasy again. Over the next few days he came to believe that people were chasing him and wanted to harm him. He became very suspicious of friends and felt that he could trust only his grandparents. He developed delusional beliefs that he was going into the military, and that he was guilty of past misdemeanours and should try to make amends. He became increasingly bizarre in speech and behaviour. His mother had to stay awake throughout the night to stop him from packing his belongings in individual parcels, trying to give them away and wandering off. On admission to hospital he was frightened and quiet. He avoided eye contact and spoke softly, looking at the floor. His recollection of recent events was confused and his speech reflected a mild degree of thought disorder. Initially he believed that the ward was an open prison and that he was being punished for his previous crimes. A urine test at the time of admission was positive for cannabis and an 'unidentified substance'. He received haloperidol 5 mg, six times on the ward, but this was stopped after an acute dystonic reaction. By the fourth day after admission his symptoms had improved substantially and he had no further medication. He was discharged after 1 week, but at follow-up 1 month later he was still somewhat frightened and had persistent ideas of reference.

Case 2

A 23-year-old female bank clerk was referred to the psychiatric out-patient department by her GP, with symptoms of anxiety and depression. On most weekends for the 2 months prior to the onset of her first symptoms she had taken one or two tablets of Ecstasy. She had also been using low doses of cannabis, amphetamines and LSD. Eight weeks prior to attendance she took one tablet of Ecstasy and almost immediately experienced a panic attack which lasted for only a few minutes. She felt mildly unwell for a few days, and on the fourth day after taking the Ecstasy she woke up with marked anxiety symptoms: light-headedness, chest pains, trembling, vomiting, depersonalization and fears that she was having a heart attack. Over the next 7 weeks the anxiety persisted and she also developed depressive symptoms of moderate severity: episodic low mood, brief thoughts of suicide, sleep disturbance, weight gain, loss of confidence and difficulty concentrating. She was an assertive, independent person and had no past psychiatric history. Her sister suffered from depression.

In the 2 months following her presentation to the clinic she was treated with lofepramine and psychological measures for

her anxiety, and her symptoms gradually improved. She denied further use of recreational drugs.

Discussion

Paranoid psychotic symptoms following the use of Ecstasy account for the majority of major psychiatric reactions after Ecstasy which have been reported (Creighton, Black and Hyde, 1991; Hayner and McKinney, 1986; McGuire and Fahy, 1991). However an aetiological role for the drug has not been established clearly, especially since many of the patients described (in common with other Ecstasy users) were using other psychoactive drugs as well, and some had a family or personal history of psychiatric illness. Case 1 above is unusual in that it is possible to establish with greater certainty than usual that the drug precipitated the symptoms, as this occurred on more than one occasion. The patient's symptoms began within a few hours of taking Ecstasy and resembled his reaction to Ecstasy (and LSD) 1 month earlier. He had no other personal or family history of psychosis.

Short-lived panic attacks have also been reported (Whitaker-Azmitia and Aronson, 1989) but to our knowledge case 2 above is the first report of prolonged symptoms of anxiety and depression in a previously well person. In a controlled clinical setting, Greer and Tolbert (1986) found that Ecstasy frequently produced jaw-tension, fatigue, nausea and, less frequently, insomnia, muscle aches, vomiting, shakiness, blurred vision, loss of appetite, urinary urgency and perceptual disturbances; these sensations might contribute to the onset of an anxiety disorder. In their study, in previously well subjects, undesirable psychological symptoms persisted for no more than a week after taking Ecstasy. McCann and Ricaurte (1991) described persistent neuropsychiatric disorders after Ecstasy: one person experienced anxiety and depression which persisted for >4 months, while another had perceptual abnormalities, memory deficits, and paranoid and anxious feelings which were still present 2 years after a period of substantial use of Ecstasy. Both of these people, however, had previous psychiatric histories.

In view of the widespread use of Ecstasy and the potential seriousness of reactions to it, much more needs to be learnt of its effects and their management. Ecstasy use is an increasingly important part of the differential diagnosis in patients presenting with paranoid psychoses, affective disorders or anxiety, and this underlines the need for clinicians to enquire carefully about drug use.

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