Ecstasy Poisoning in a Toddler
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Sir,

We found the article “Accidental Ingestion of Ecstasy in a Toddler” by Chang et al. in the December 2005 issue of the Journal of the Formosan Medical Association interesting, and we have a few questions and comments.

The authors stated that the patient’s urine contained 2111 ng/mL of amphetamine without mentioning the method of measurement. As 3,4-methylenedioxy-methamphetamine (MDMA; slang term “ecstasy”) is different from amphetamine, how did the authors arrive at the diagnosis of MDMA poisoning instead of amphetamine poisoning? When encountering a patient suspected of substance abuse, the most popular screening method is immunoassay. By using this method, there is a cross-reaction among the derivatives of amphetamines, namely methamphetamine, MDMA, 3,4-methylenedioxyamphetamine, 3,4-methylenedioxy-N-ethylamphetamine, etc. If the authors had used the immunoassay to examine the urine sample, this patient might have been suffering from MDMA poisoning despite a positive amphetamine urine examination. Therefore, the authors should try to confirm the presence of MDMA by gas chromatography (GC)/mass spectrometry (MS). After GC/MS testing, the exact amount of MDMA could be identified and the authors would then be able to conclude that the patient was intoxicated by MDMA.

Ecstasy is a common substance of abuse and is rarely formulated as pure MDMA, but rather a mixture of various substances. A report from the US suggests that ecstasy commonly contains substances other than MDMA. According to a study from Taiwan’s National Bureau of Controlled Drugs, an illegal MDMA tablet may contain as many as 10 ingredients. Although the patient’s history showed that a tablet of ecstasy was taken, we still need to examine the boy’s urine for other abuse substances in addition to amphetamine and its derivatives. Therefore, there is a high possibility that this patient may have suffered from mixed poisoning. At the very least, the urine sample should have been examined to exclude ketamine, which is commonly combined with MDMA in tablet form and causes similar symptoms as MDMA poisoning.

The authors discussed the concentration of MDMA in the second paragraph of their Discussion. However, the case report only provided the urine level of amphetamine, which does not correlate well with the clinical picture. The MDMA concentration in urine is usually much higher than that in blood. As demonstrated in our previous case report of MDMA poisoning, the urine level of MDMA is about 90 times higher than that of plasma. Furthermore, the authors only provided the urine level of “amphetamine”, which cannot directly represent MDMA levels as we have already stated in the second paragraph.

Last but not least, this case report raised important ethical and legal issues, which were not clarified in the Discussion. According to Taiwan’s Law of Children’s Welfare, health care providers are obligated to notify law enforcement agents when coming across and treating children using abuse substances. This boy was improperly treated by his parents, and it is the duty of the health care providers to prevent further possibility of child abuse by reporting the situation to the authorities.

References


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