PRIAPISM: ECSTASY RELATED?

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ABSTRACT

Priapism, an uncommon urological emergency, is commonly drug-induced. We present a previously unreported case of a young man with priapism probably related to Ecstasy.


Priapism, a persistent painful erection not resulting from sexual desire, is an uncommon condition that can occur in any age group. A painful erection of more than 6 hours' duration can be considered to be priapism (in contradistinction to prolonged erection) as ischemia and acidosis set in (low-flow priapism). In high-flow priapism, usually as a result of trauma, no ischemia or pain is present. Impotence is a complication of priapism, and the duration of symptoms before treatment correlates with the risk of impotence. In a series of 124 men, 92% and 22% of patients whose priapism lasted less than 24 hours and more than 7 days, respectively, remained potent. The etiology of priapism can be classified as idiopathic (in about half of the cases) or secondary. Among the secondary causes, drugs are the most important factor, of which the most frequently implicated are psychotropic drugs, antihypertensive agents, heparin, and intracavernosal injection therapy (papaverine and phentolamine).

CASE REPORT

A 21-year-old Chinese man presented with a 10-day history of a persistent, painful erection. He first noticed it when he woke up in the early morning with a painful erection. His previous sexual encounter was 2 days before. No history of intracavernous injection or the use of any drug other than Ecstasy was elicited. He had been taking Ecstasy for 6 weeks (one-half tablet per week) but had stopped 1 month before the episode of priapism. Physical examination revealed a tender erect penis, with hard cavernosal bodies but a soft glans and corpus spongiosum. The remainder of the examination was normal (including normal neurologic findings). A full blood count/peripheral blood smear was normal (excludes leukemia/hemoglobinopathy).

An emergency cavernosal-glandular shunt was performed (Ebbehoj's procedure). He was discharged well with no further recurrence of priapism, and at postoperative month 2 retained 20% of his former erection (subjective).

COMMENT

In the present patient, we excluded all known causes of priapism. We conducted a Medline search on the possible association of Ecstasy (3,4-methylenedioxyamphetamine) with priapism, but no such association was found.

Numerous neurotransmitters are involved in the penile erection. Serotonin may have both facilitating and inhibitory effects on an erection, depending on the type/subtype of 5-hydroxytryptamine (5-HT, serotonin) receptors involved and the level of stimulation. Stimulation of the central nervous system 5-HT1B and 5-HT1C/1D receptors causes penile erection and stimulation of 5-HT1A or 5-HT2 receptors inhibits it. Ecstasy, a serotonin-releasing agent, causes reduced brain serotonin levels with chronic use, as well as neurodegenerative changes. This finding has been confirmed in studies of animals and humans. Stimulation of spinal serotonin receptors has also been shown to suppress penile erection. We believe that a reduction in the brain serotonin level occurred together with degeneration of the serotonergic fibers in our patient, resulting in priapism.

Fenfluramine, an Ecstasy-related drug, also has a
similar effect on the brain serotonin level with long-term use.\textsuperscript{13,14} Fenfluramine and serotonin uptake inhibitors such as fluoxetine have been shown to induce/enhance penile erections.\textsuperscript{6,15} Therefore, Ecstasy by way of its action on the 5-HT receptors may have caused the priapism in our patient.

**CONCLUSIONS**

It is important to recognize the association of priapism with Ecstasy use, as it is a common recreational drug among young people.

**REFERENCES**


