

CORRESPONDENCE

Sudden cardiac death in a healthy 28-year-old male truck driver abusing ephedrine

Sir:

Ephedrine is a sympathomimetic alkaloid which stimulates alpha and beta receptors as well as the central nervous system. It is used parenterally as a vasopressor in shock as well as orally for the treatment of bronchial asthma. Ephedrine-containing drugs are still widely available in various over-the-counter preparations despite potentially dangerous adverse effects on the nervous system and heart. A recent warning issued by the FDA was in response to an increasing abuse of over-the-counter drugs containing ephedrine (1). The warning also applies to ephedrine-containing dietary supplements with labels that often portray the products as apparent alternatives to illegal street drugs, implying that they produce such effects as euphoria, increased energy, and sexual sensations, and heightened awareness.

A recognized subset of mostly young abusers of ephedrine is comprised of truck drivers who take the drug for keeping awake while driving. This usage of ephedrine has been documented in 7% of fatally injured truck drivers (2). Herein we report the case of a 28-year-old obese male truck driver without any significant past medical history. According to his family, he was abusing an over-the-counter medication containing ephedrine and guaifenesin (up to 600 mg ephedrine per day for at least the past six years).

On a hot day in early September 1996, he was helping his family bale hay on their farm as he had done many times before. On that day, having already consumed 250 mg ephedrine, he suddenly collapsed around noon, and subsequent resuscitation efforts by family members and later by medical professionals were unsuccessful. Autopsy studies did not reveal any pathologic process to

account for his death. Specifically the coronary arteries, valves, and myocardium, including the conduction system, were normal. No drugs, other than ephedrine and guaifenesin, were identified by toxicological studies on postmortem blood and urine. Thus, his sudden death was most likely due to a cardiac arrhythmia triggered by the combination of an excessive use of ephedrine and strenuous labor on a hot day.

Sudden cardiac death is rare in young adults. A subset of these cases can be related to high-risk behavior, such as sympathomimetic drug abuse, especially in the absence of any cardiac-related predisposition or morphological findings (3).

Given the severe adverse effects of ephedrine (including dizziness, headache, gastrointestinal distress, cardiac arrhythmias, coronary spasm, seizures and psychosis (1)), the present case lends support to the efforts of the FDA to more tightly regulate the availability of ephedrine and related drugs.

References

1. Nightingale SL. Warning issued about street drugs containing botanical sources of ephedrine. *JAMA* 1996;275:1534.
2. Crouch DJ, Birky MM, Gust SW, et al. The prevalence of drugs and alcohol in fatally injured truck drivers. *J Forensic Sci* 1993;38:1342-1353.
3. Liberthson RR. Sudden death from cardiac causes in children and young adults. *New Eng J Med* 1996;334:1039-1044

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