

## ANAPHYLAXIS FOLLOWING AMPHETAMINES

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**Abstract.** In the United States, drug abuse is known to be a national emergency. In New York City alone there have been 3 deaths reported daily this year from addictive drugs. Although heroin is the drug which presents the greatest problem, addiction to amphetamines is also a menace. The mechanism of acute reactions to intravenously administered addictive drugs is unknown. Herein we report the circumstances of an anaphylactic reaction following amphetamines in a 23-year-old woman.

So little is known of the effects of addictive drugs that the National Institute of Mental Health recently revealed that approximately one-third of 10 000 college students surveyed had tried marijuana, and one-seventh used it regularly, with one of 300 having had severe psychotic episodes (8). Amphetamines are used less but acute toxicity results in more severe symptoms including mental and motor hyperactivity (4) and may include convulsions and death from cerebral hemorrhage or circulatory collapse (3, 5, 7). The purpose of the present communication is to report the first case of anaphylaxis following amphetamine abuse, yet another potentially fatal complication.

### *Report of a Case*

A 23-year-old white woman was admitted to Bellevue Hospital for profound respiratory distress. Earlier that evening she and three friends had injected themselves with Obetrol®.<sup>1</sup> The injecting solution was prepared by crushing 10-mg tablets in 15 eye-droppers of tap water, boiling, then drawing the solution into a syringe through a cotton ball prepared from Q-tips.

The patient was the last of the group to inject herself and the only one who had an unpleasant reaction to the

<sup>1</sup> Each 10 mg Obetrol tablet contains: 2.5 mg methamphetamine saccharate, 2.5 mg methamphetamine hydrochloride, 2.5 mg amphetamine sulfate, 2.5 mg dextroamphetamine sulfate, 28.8 mg lactose, 132 mg powdered sugar, 33 mg corn starch, 3.6 mg acacia, 2.4 mg magnesium stearate, and coloring material.

45 mg of amphetamines which she estimated each person received intravenously. Within 2 min of the injection she was flushed and felt tightness in the chest and great difficulty breathing. Attempts at mouth-to-mouth respiration by her companions were unsuccessful and she was rushed to the hospital. On arrival, she was semi-conscious, apneic, cyanotic, and had periorbital edema. Her pulse was 180 per minute and blood pressure was 90/60. Intubation seemed to give her some relief. Because of the tachycardia, epinephrine was not given, but 50 mg of Benadryl and 250 mg of Aminophylline was administered immediately intravenously. Over the next hour, recovery was almost complete.

Arterial Blood Gas Values were:

	pH	PO <sub>2</sub>	PCO <sub>2</sub>
15 min after admission	7.15	46	45
45 min after admission (on 35% O <sub>2</sub> )	7.24	64	37
2 1/2 h after admission (on 35% O <sub>2</sub> )	7.39	92	33

All other laboratory findings were in the range of normal.

The patient had a history of frequent attacks of asthma, and of atopic eczema in childhood. She was also allergic to peanuts and products of peanuts, and had been treated successfully with epinephrine by a physician about 20 times during her life for severe bouts of dyspnea engendered by eating nuts. For the past 3 months she had often injected various amphetamine preparations but had never before used Obetrol.

During hospitalization she was skin-tested with 0.01 ml of a 1 mg/1 ml solution of amphetamine and again with 0.01 ml of a crude solution of Obetrol. Both tests were negative. After 5 days she was much improved and was discharged.

### COMMENT

Besides anaphylaxis to amphetamines, there are two other possibilities: (1) anaphylaxis due to contaminants such as peanut products to which the patient had known allergy, and (2) respiratory depression due to overdosage of amphetamines, or to pulmonary embolism. The first possibility is highly unlikely since no source of nuts was un-

covered. Respiratory distress from overdosage or embolism is unlikely for two reasons: (1) no one else developed an adverse effect, and (2) respiratory depression due to overdosage should be accompanied by unconsciousness. An allergic reaction is the most likely explanation and is strongly supported by the patient's exhibition of intense periorbital edema on admission, as well as the past history of allergic reactions to peanuts. James & Austen's study of anaphylaxis in man indicated that respiratory failure was the commonest cause of death (6). This patient's negative skin test reactivity to amphetamines is not surprising since it is only in the system of penicillin allergy that years of work has produced chemical derivatives capable of eliciting skin reactivity in patients prone to anaphylaxis (2, 9). No anaphylactic reaction to any amphetamines has been reported and search of the last 10 years' literature revealed only one case of a possible allergic response—allergic vasculitis (1).

Additional material will be given in a forthcoming book.

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