

CASE REPORT

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Suicide by Intravenous Injection of Cocaine. A Report of Three Cases

REFERENCE: Sperry, K. and Sweeney, E. S., "Suicide by Intravenous Injection of Cocaine. A Report of Three Cases," *Journal of Forensic Sciences*, JFSCA, Vol. 34, No. 1, Jan. 1989, pp. 244-248.

ABSTRACT: Death as a consequence of cocaine abuse is continuing to increase in all parts of the United States. Cocaine use may cause the development of psychosis, with subsequent expression of suicidal ideations, and potentially even successful suicide. Cocaine dependence may also cause depression in the individual who is unable to control his or her craving for the drug, and suicide may be perceived as the only solution to a desperate problem. Despite the dramatic escalation of cocaine abuse and the potential toxicity of this drug, there have been no reports within the United States of cocaine being used as the agent to accomplish a suicide. Herewith are reported three cases in which depression and desperation over cocaine dependence were the motivations for successful suicide, which was accomplished through the intravenous injection of cocaine to the point of death. True cocaine suicide is probably only identified through the presence of objective scene information that unequivocally proves suicidal intent, such as notes or letters which contain information to this effect. A careful search of the scene of death in cocaine fatalities is mandatory, and diligent application of routine scene investigation principles may reveal that suicide through the use of cocaine is more widespread than first appearances would suggest.

KEYWORDS: pathology and biology, cocaine, suicide

The use of cocaine may precipitate sudden psychotic episodes, which in turn can lead to suicidal ideations, attempts, and even successful suicides [1]. However, when suicide is the end result of a mental disturbance brought about by cocaine dependence, the means of accomplishing the death does not appear commonly to entail the use of the cocaine itself as the fatal agent. Rather, other drugs or physical means (jumping from heights, use of firearms) are employed to terminate life. To the author's knowledge, there are no reported cases of suicide through the implementation of intravenous cocaine in the American medical literature, despite the increasing recreational abuse of this drug. Within the past two years, the Office of the Medical Investigator for the State of New Mexico and the Medical Examiner's Office of the State of Utah have investigated and autopsied three deaths that were caused by the intentional intravenous injection of cocaine. Two of these cases, both of which originated in New Mexico, have been outlined recently in a brief preliminary report [2].

Received for publication 15 March 1988; revised manuscript received 15 April 1988; accepted for publication 28 April 1988.

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Case 1

A 33-year-old Caucasian male, a self-employed construction contractor, checked into a motel shortly after 2:00 a.m. At about 10:00 a.m. maids who were going to clean the room opened the door and found him lying face down upon the bed with a tourniquet made of cloth suspenders knotted around his left upper arm. Numerous personal papers were scattered over a large table and a small bedside table along with a syringe, a candle, a small cup of water, and a small plastic envelope containing a small amount of white powder. Upon the table was a large envelope, addressed to the decedent's daughter, containing numerous notes and letters which clearly expressed suicidal intent. In some of the letters, he referred to himself as a "junkie," and that he was "too sick to cope." A checkbook found among the papers contained records of cash withdrawals of \$100 to \$150 from the account several times per week for the previous four months with the balance of the account remaining low throughout this period.

The postmortem examination was remarkable solely for recent intravenous injection sites within the left antecubital fossa, vascular congestion of the lungs and liver, and pulmonary edema. Postmortem toxicological studies revealed a blood cocaine level of 2.4 mg/L, urine cocaine level of 30.8 mg/L, and a blood alcohol concentration of 0.02 g/dL. No other drugs were detected. Analyses of the syringe contents, the white powder, and residue in five small glass bottles secreted within the clothing were all positive for cocaine.

Case 2

A 25-year-old Caucasian college student was found by a friend lying upon the floor of his apartment approximately 12 h after he was last seen by his roommate. Multiple syringes were found in his room, as well as a spoon containing crystalline residue, and a formed chunk of white granular material. A short note was found on a nearby table which expressed clear suicidal intent (Fig. 1). Although his family were unaware of the cocaine problem, the young man had related to his roommate feelings of depression over his drug dependency and the uncertainty he faced as his finances dwindled.

The postmortem examination revealed multiple intravenous needle puncture sites of varying ages distributed within both antecubital fossae, as well as on the tops of the feet and

I'm real sorry I had
to do this but I can't
handle it any longer. I
love you all & I hope you all
live a happy life.
I love you love

FIG. 1—Case 2: complete text of the short suicide note which succinctly conveys the feeling of despondency over the decedent's cocaine dependence.

along the inside surfaces of the ankles, anterior to the medial malleoli (Fig. 2). Many of the injection marks exhibited a distinctive gold-brown coloration. Toxicologic testing disclosed a blood cocaine level of 5.8 mg/L, blood alcohol concentration of 0.011 g/dL, and the presence of cocaine metabolites within the urine. No other drugs were discovered in the body fluid samples. The block of white crystalline material tested at 81.6% pure cocaine.

Case 3

A 27-year-old Caucasian woman was found by her boyfriend dead lying supine in a bean-bag chair in his apartment. The boyfriend indicated that she had been depressed the night before. A syringe was held in her right hand, and a spoon on a nearby table contained white granular material. Two notes on the table were found, and a portion of the message stated "I really am sorry it had to be here, but I could not do it any were (sic) else," with instructions for her father to word her name in a certain manner on her tombstone. At the autopsy, both antecubital fossae contained yellow-tan to red-purple subcutaneous hemorrhages within which were numerous intravenous injection marks and no other specific pathologic abnormalities. Postmortem toxicology disclosed a blood alcohol level of 0.06 g/dL, blood cocaine concentration of 4.0 mg/L, and blood benzoylcgonine level of 15.9 mg/L.

Discussion

The accurate manner of death determination in fatalities from illicit drug use is a perennial problem to the forensic pathologist. Although it is highly probable that the majority of such deaths are the result of inadvertent overadministration of illegal drugs used in a volitional, "recreational" fashion, this is quite difficult to prove. Occasional homicides are perpetrated by the intentional sale of drugs to the unsuspecting customer which are concentrated beyond the tolerance of the individual or have been mixed with other, more lethal substances (the so-called "hot shot"). Again, without objective proof, these homicides are usually only detected through the confession of the perpetrator (a decidedly rare occurrence) or information provided by another person. Finally, the illicit drugs may be self-adminis-

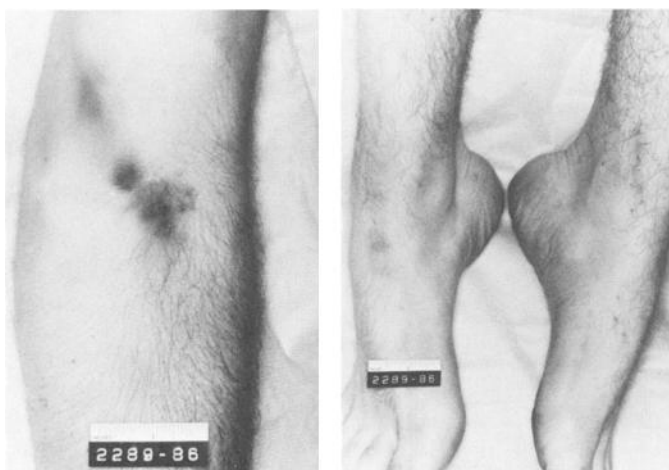


FIG. 2—Case 2: multiple recent and healing intravenous injection sites within the antecubital fossae (left) and on the feet and ankles (right) indicating that the deceased had been injecting the drug for some time before his suicide.

tered with the full purpose of killing oneself. However, as with the other situations, the determination of a suicidal manner is, in most instances, rendered impossible without the presence of some sort of indicia which provides inarguable proof of intent. Therefore, in our jurisdictions, the manner of death in the majority of illicit drug-caused deaths is usually certified as "undetermined" until the time (if ever) that further information surfaces which allows a more accurate conclusion.

Despite the prevalence of cocaine, documented suicide through the use of this drug appears to be a rare phenomenon. The German medical and medicolegal literature records two single instances of suicidal use of cocaine [3,4]. One of these was accomplished through nasal/oral ingestion of the drug, whereas the other individual administered the cocaine parenterally. Although the intravenous abuse of cocaine is not an uncommon occurrence, and cocaine deaths continue to rise throughout the United States, to the author's knowledge there are no recorded instances in the American medical literature of parenteral injection of cocaine for the express purpose of suicide. Clearly, this may well be as a consequence of the inherent difficulties associated with accurate manner of death determination, for without some definitive indication at the scene of death that suicide was the intent, the death will be most probably certified as undetermined.

In the three cases described here, suicide was accomplished by the intravenous injection of large amounts of cocaine. The postmortem cocaine blood levels in each case are within the range associated with fatal potential. Wetli and Wright [5] observed an average level of 3.0 mg/L for intravenous fatalities. Examination of the suicide notes of two individuals clearly disclosed the underlying reason for the suicide as being the already existing dependence upon cocaine, with despondency over the havoc that this addiction engenders. In the first case, the postmortem examination revealed only two fresh needle puncture sites suggesting that the primary mode of recreational cocaine intake of the cocaine before the suicidal episode had been predominantly oral and nasal ingestion or smoking of the drug. Conversely, the second victim had clearly been intravenously injecting cocaine for some time before killing himself, even to the point of using veins in the feet and ankles as administration sites. The third victim confirmed her depression through suicide notes, and the autopsy findings indicated evidence of intravenous cocaine injection for some time before the fatal episode. However, without the suicide notes completed prior to the fatal injections, there would have been no other objective evidence that any of the three deaths were intentional.

Conclusion

In conjunction with the pronounced increase in cocaine abuse within this country, it is certain that there are a number (albeit probably small) of cocaine-related deaths that are intentional but are not detected as such either because no notes expressing intent are found at the scene of death or because only a cursory scene examination is accomplished in the first place. Although the first reason cannot be corrected, the second may readily be addressed through insistence by the forensic pathologist upon complete death scene investigation. It may well be an assumption on the part of law enforcement officers that the users of cocaine do not commit suicide through use of this drug, and this fallacy may be corrected through proper instruction. Suicide notes or other communications are not always immediately identifiable at a death scene and may be hidden or even consist of letters mailed to relatives or friends before death. Finally, there may exist a tendency to in effect "write off" cases of death that occur as the result of illicit drug abuse without examining all of the facts surrounding these fatalities. All drug-related deaths must be examined with equal diligence, for even as a detailed analysis will uncover the occasional suicide, so will the rare homicide be disclosed as well. Through the application of sound and unvarying death scene investigation principles, it is inevitable that more suicides through the use of cocaine will become apparent.

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