## **CASE REPORT**

Stephen J. Cina,<sup>1</sup> M.D., Dominic S. Raso,<sup>1</sup> M.D., and Sandra E. Conradi,<sup>1</sup> M.D.

# Suicidal Cyanide Ingestion As Detailed in Final Exit

**REFERENCE:** Cina, S. J., Raso, D. S., and Conradi, S. E., "Suicidal Cyanide Ingestion As Detailed in *Final Exit*," *Journal of Forensic Sciences*, JFSCA, Vol. 39, No. 6, November 1994, pp. 1568-1570.

**ABSTRACT:** Final Exit is an "informational aid" advocating the practice of active euthanasia and describing the proper method for the foolproof commission of suicide. Although it has been directed toward assisting the terminally ill patient who desires to terminate suffering, it has been suggested that the widespread availability of this book may result in its abuse. Specifically, there is growing concern that "do-it-yourself suicide manuals" could bring about the fruition of suicidal ideations that are relatively common among mentally ill patients and impressionable adolescents. Described is the suicidal ingestion of cyanide by a physically healthy 30-year-old man. His diary, found next to the body, contains a recipe for suicide copied verbatim from Derek Humphry's *Final Exit*. Although the decedent's history, the scene investigation, and the external examination strongly suggest an underlying psychiatric disorder, postmortem examination disclosed minimal underlying physical disease. This case graphically illustrates the abuse potential of this literary genre. To our knowledge, this is the first case of its kind to appear in the literature. We recommend that forensic pathologists and medical investigators familiarize themselves with the methods of suicide described in *Final Exit*.

KEYWORDS: pathology and biology, cyanide, Final Exit, suicide, death

Final Exit: The Practicalities of Self-Deliverance and Assisted Suicide for the Dying, is an "informational aid" designed to facilitate suicide by terminally ill patients [1]. As the title indicates, this manual is written as a do-it-yourself "cook book" designed to enable the reader to efficiently "achieve death with dignity." The pros and cons of various methods of suicide are discussed, with close attention directed toward such features as aesthetics, quantity and quality of pain, and expected degree of certainty. Although the ingestion of a combination of prescription drugs (a lethal dosage table is provided) and alcohol is the author's recommended method of "self-deliverance," alternate ways to die are offered. The chapter entitled "The Cyanide Enigma" includes a recipe for a lethal potassium cyanide

Received for publication 11 Feb. 1994; revised manuscript received 12 April 1994; accepted for publication 12 April 1994.

<sup>&</sup>lt;sup>1</sup> Resident Physicians and Chief Medical Examiner, respectively from the Office of the Chief Medical Examiner, the Department of Pathology and Laboratory Medicine, the Medical University of South Carolina, Charleston, SC.

(KCN) cocktail and notes that "people working in chemistry or industry" can obtain KCN with relative ease. Although the author, Derek Humphry, suggests that death by cyanide may not be peaceful, he admits that this method "appears to be viable for self-deliverance when used with the greatest of care." We have recently investigated a case in which a healthy 30-year-old man died following ingestion of a sodium cyanide solution prepared in the manner described in *Final Exit.* The final entry in his diary was a recipe for a cyanide cocktail copied verbatim from Humphry's book. A page torn from the journal dated one day prior to the victim's death was discovered on the table next to the decedent. It was a reminder to "read Derek Humphrey (sic)."

#### **Case Report**

A deceased 30-year-old, black male was discovered in his motel room by a maid. The room contained a compound bow and arrows, pellet gun, a mound of rocks on one table, and a white baseball cap imprinted with the logo "Satan is Dying." A vial of white powder, later identified as sodium cyanide, was found near a plastic bowl labeled with a hand-written skull-and-crossbones and "Poison—Do Not Touch." His  $3 \times 5$  notebook-diary contained many entries regarding the location of local electroplating and metal refining industries, a variety of exquisitely detailed lists delineating routine daily activities, and the aforementioned recipe copied from *Final Exit*. During the course of the investigation a storeroom rented by the decedent was located and which contained approximately five pounds of sodium cyanide. The source of this chemical could not be determined. The decedent was described by past acquaintances as a "loner" and a man interested in "Satanism and witch hunts."

The decedent was fully clothed and wore a yellow-metal crucifix ring. The head was shaved and the body was well-developed. Several tattoos were present including "To Hell With Satan" written in green, three-inch tall block letters across his upper back; "777" in green, one-inch tall block letters on the dorsum of the right hand; and his initials beneath a crucifix on the left upper arm. No evidence of trauma was present. The internal examination commenced at 25h postmortem. At necropsy, three of five persons present could appreciate a strong, bitter odor emanating from the viscera. A similar odor was noted in the gastric contents, which were quickly removed and frozen. The remainder of the autopsy revealed only visceral congestion and portal triaditis accompanying mild fatty change of the liver. Toxicologic analysis of the blood demonstrated the absence of alcohol and illicit drugs. Blood co-oximetry quantified a total hemoglobin of 28 µg/mL with an oxyhemoglobin fraction of 39.8%, deoxyhemoglobin fraction of 54.6%, methemoglobin fraction of 4.2%, and carboxyhemoglobin fraction of 1.4%. Colorimetric analysis of the blood yielded a cyanide concentration of 28 µL, sufficient evidence to determine that death was due to cyanide toxicity (anoxic anoxia). No other tissues were assayed for cyanide levels. The manner of death was determined to be suicide.

#### Discussion

During the twentieth century, cyanide ingestion has become a relatively rare form of suicide. Though romanticized in spy movies and mystery novels, cyanide's factual lethality has been well documented. The 1978 mass suicide in Guyana confirmed that this chemical's deadly reputation is well-earned [2]. A recent review of cyanide-related deaths suggests that the suicidal use of this substance is usually limited to specific occupational groups [3]. Those employed in electroplating, chemistry, mining, and metal heat treatment processes have ready access to this chemical [3]. Although the victim in our case was an unemployed vagrant, his log contained many references to electroplating. It is probable that he obtained his stores of cyanide as yet unidentified sources in the industrial sector.

### 1570 JOURNAL OF FORENSIC SCIENCES

The investigation of cyanide-related deaths entails some risk for the autopsy surgeon and his technicians. The ability to smell cyanide varies among individuals; debate continues as to whether this trait is inherited in a sex-linked pattern [4–6]. The absence of an olfactory warning, or the failure to appreciate the "bitter almond" smell, could result in the prosectors being exposed to dangerous levels of cyanide. High levels of cyanide have been demonstrated in a pathologist and his assistants following the autopsy of such a case [7]. Although the risk appears to be highest in the early postmortem period, clinically significant blood cyanide levels have been attained by prosectors many hours after the victim's death [7]. Due to cyanide's quick action, a thorough scene investigation will usually recover the chemical and indicate that cyanide precautions are warranted. These safeguards include performing the autopsy in a well-ventilated room and removing the gastrointestinal tract en bloc. The stomach may then be carefully opened under a hood. Fortunately, no ill-effects were noted by any of the prosectors of this case.

The efficacy of cyanide as a suicidal agent has been well documented; the potential lethality of suicide manuals has yet to be ascertained [8]. Critics of *Final Exit* have cited cases of clinically depressed, physically healthy patients and impressionable adolescents that have nearly met their demise after reading *Final Exit* [9,10]. Anecdotal evidence indicates that other medical examiners' offices have investigated deaths which involve suicidal methods described in *Final Exit*. A published series of such cases might better delineate the extent of this phenomenon.

Derek Humphry has written several "informational aids" providing the general public with detailed instructions on how to commit suicide [1, 11]. He states that despite the widespread availability of his books, "misuse has yet to be documented" [1]. This is no longer the case. Medical examiners may see more suicide cases in which methods described in *Final Exit* are employed. They may wish to familiarize themselves with the techniques described in this text.

#### References

- [1] Humphry, D., Final Exit, The Hemlock Society, Eugene, OR 1991.
- [2] Polson, C. J., Green, M. A., and Lee, M. R., Clinical Toxicology, Third Ed., Pitman, London, 1983, pp. 162–196.
- [3] Fernando, G. C. A. and Busuttil, A., "Cyanide Ingestion: Case Studies of Four Suicides," American Journal of Forensic Medicine and Pathology, Vol. 12, No. 3, 1991, pp. 241-246.
- [4] Gwilt, J. R., "The Odour of Potassium Cyanide," Medicolegal Journal, Vol. 29, 1961, pp. 98-99.
  [5] Brown, K. S. and Robinette, R. R., "No Simple Pattern of Inheritance in Ability to Smell Solutions of Cyanide," Nature, Vol. 215, 1967, pp. 406-408.
- [6] Kirk, R. L. and Stenhouse, N. S., "Ability to Smell Solutions of Potassium Cyanide," Nature, Vol. 171, 1953, p. 698.
- [7] Andrews, J. M., Sweeney, E. S., Grey, T. C., and, Wetzel, T., "The Biohazard Potential of Cyanide Poisoning During Postmortem Examination," *Journal of Forensic Sciences*, Vol. 34, 1989, pp. 1280–1284.
- [8] Cina, S. J., Raso, D. S., and Conradi, S. E., "Final Exit: The Slippery Slope Begins?," Southern Medical Journal, Vol. 86, No. 10, 1993, p. 1185.
- [9] Chappell, F. B. and Enson, M., "Final Exit and the Risk of Suicide," Journal of the American Medical Association, Vol. 267, No. 22, 1992, p. 3027.
- [10] Sacks, M. H. and Kemperman, I., "Final Exit As a Manual for Suicide in Depressed Patients," American Journal of Psychiatry, Vol. 149, No. 6, 1992, p. 842.
- [11] Humphry, D., Let Me Die Before I Wake, The Hemlock Society, Eugene, OR, 1981.

Address requests for reprints or additional information to Stephen J. Cina, M.D. Dept. of Pathology and Laboratory Medicine The Medical University of South Carolina 171 Ashley Ave. Charleston, SC 29425 (803) 792-3500 (phone) (803) 792-3537 (fax)