



National Medical Services, Inc.

3701 Welsh Road

Willow Grove, PA 19090

(215) 657-4900

Toll Free 800-522-6671

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CASE

OF

Linda Adanalian

Serving Justice Through Forensic Science Since 1970®



National Medical Services, Inc.

Toxicology Specialists Worldwide Since 1970

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April 25, 2001

David Dalition, Esquire
46 Laguna Road
Lake Monticello, V.A. 22963

Re: Linda Adanalian
NMS Expert Service No. N01087

Dear Mr. Dalition:

You have retained National Medical Services, Inc., represented by George F. Jackson, Ph.D., as consultants in Toxicology in the above captioned case. You have been furnished a description of National Medical Services, Inc. as well as a copy of Dr. Jackson's Curriculum Vitae. You have requested that we review pertinent documents and records and form conclusions and opinions regarding the toxicological findings concerning the unfortunate death of Mrs. Linda Adanalian.

In order to comply with this request you have supplied us with the following documents and records:

- a. Copy of Report, Henry A. Spiller, Director, Kentucky Regional Poison Center, dated April 6, 2001;
- b. Copy of Report, James E. Cisek, MD, Medical Director of Virginia Poison Center, dated April 12, 2001;
- c. Copy of Medical records, Linda Adanalian, Community Medical Centers, Fresno, Ca.;
- d. Copy of Medical records, Linda Adanalian, Saint Agnes Medical Center, Fresno, Ca.;
- e. Copy of Fresno County Coroner, Autopsy Report, Linda Adanalian, dated 5/26/00, signed by Alber. Siu, M.D.;



- f. Copy of Pathology Report, Mayo Clinic-Rochester, Linda Adanalina, Williams D. Edwards, M.D.;
- g. Copy of Pathology Report, Linda Adanalina, Stanford Pathology Consultants, Gerald J. Berry, M.D.;
- h. Copy of Pathology Report, Linda Adanalina, Armed Forces Institute of Pathology, Allen P. Burke, M.D.;
- i. Copy of Report, Linda Adanalina, Nellis A. Smith, M.D.;
- j. Copy of Report, Linda Adanalina, authored by Steven H. Chooljian, M.D.;
- k. Copy of Deposition, pages 37 to 40, Venu Gopal, M.D.;
- l. Copy of Petition for Order to Exhume Remains, Case No. 652295-7, Linda Adanalina, dated May 24, 2000;
- m. Copy of Declaration of David M. Hadden, M.D., Petition for Order to exhume Remains, dated May 24, 2000;
- n. Copy of Laboratory results, Linda Adanalina, Mayo Clinic-Rochester, Mn.;
- o. Copy of Autopsy Toxicology Reports, Adanalina, Linda, Toxicology Laboratory Mayo Clinic-Rochester, Mn, dated 6/15/00;
- p. Copy of Toxicology report, Linda Adanalina, TDH Mineral King Laboratory, Tulare, Ca.;
- q. Copy of Laboratory results, National Medical Services, Linda Adanalina;
- r. Copy of Report, Eric A. Pfeifer, M.D., dated 2/12/01;
- s. Copy of Letter, Bernard H. Eisenga, Ph.D., M.D., dated 3/23/01.



I have reviewed the above mentioned material. Using information found therein, as well as my own training and experience, I have formed the following conclusions and opinions.

1. At the time of the incident, Mrs. Linda Adanalian, was a 37 year old female in apparent good health with one unexplained hospital visit prior to February 11, 2000.
2. On February 11th, during the day hours, Mrs. Adanalian reported to friends that she was not feeling well. However, during the evening of the 11th, she proceeded to take her children to see the Ice Capades. Shortly after the Ice Capades, she collapsed and complained of chest pain and shortness of breath. Paramedics found her to be hypotensive with no measurable blood pressure. Mrs. Adanalian was transported by paramedics to Community Medical Center of Fresno for treatment. Her complaints included nausea, vomiting and diarrhea. She complained of weakness and numbness in her lower extremities. During the course of treatment, she became hypotensive, hypoxic and developed respiratory and cardiac collapse. Despite intensive resuscitative efforts, Mrs. Adanalian did not survive the cardiovascular collapse. The attending physician felt that her death was of an uncertain etiology.
3. Her body was transferred to the Fresno County Coroner for postmortem examination. As part of the examination, tissues were collected and submitted to toxicological examination. Initial examination of the submitted tissues did not reveal anything of a toxicological significance. No anatomical cause of death was determined.
4. To determine with certainty the cause of death for Mrs. Adanalian, a second postmortem was conducted. Tissues from this examination and the previous examination were analyzed by National Medical Services, Baylor Toxicology Service, Mayo Medical Laboratories and Expertox. All laboratories results were consistent and demonstrated elevated levels of selenium above mean concentrations for brain, kidney and liver. These values reported are within the range reported in fatal cases involving selenium. The blood selenium value of 380 mcg/L is elevated above the normal range of 58 to 230 mcg/L. Analysis of the hair sample was non-detected for selenium. The antemortem plasma selenium value of 90 mcg/L was determined over one year from the date of the incident. Given the other selenium values, I have concerns over the validity, integrity and storage condition of this specimen. Thus, I will reserve comment on the plasma selenium value until those issues are resolved.



5. Selenium is an essential trace element. It is used in various industries, e.g., transistors, steel and blue for guns. In medicinal preparations, selenium can be found in shampoos and dietary supplements. The compound exists in elemental, organic and inorganic forms.
6. In acute selenium exposure, the following symptoms have been reported: vomiting, diarrhea, breathing difficulties, muscle weakness and hypotension. Garlic breath odor may or may not be present in acute exposure to selenium. In the few acute human selenium poisoning cases, patients have shown nonspecific gastrointestinal and central nervous system symptoms
7. It is my opinion, based on the concentration of selenium determined in the various tissues, clinical presentation and available scientific literature, in this case, it can be stated with reasonable scientific certainty that in the absence of a more competent cause, the effects of selenium on the body are such as to represent a competent cause of death.
8. Should evidence be provided that contradicts the information contained in my report then the conclusions and opinions may need revising.

Respectfully,


George F. Jackson Ph.D., DABFT
Forensic Toxicologist