

Letters to the Editor

Cardiac Neoplasms and Unexpected Death

Dear Sir:

The case reported by Drs. Roh and Paparo, "Primary Malignant Lymphoma of the Heart in Sudden Unexpected Death" (Vol. 27, No. 3, July 1982 pp. 718-722), documents an interesting example of an unusual primary neoplasm. Beyond this, it is the history of a man in the upper reaches of life, in apparently good health and without evidence of impending medical crisis, who suddenly collapses and expires.

In consideration of the circumstances surrounding this case, one must examine all of the pertinent possibilities. Initially, there is the physical presence of a mass within the myocardium. Blunt trauma, however slight, may induce a complicating hemorrhage into the myocardium [1]. This was not observed. The combination of neoplasm, emotional stress, perhaps unrecognized by the subject's wife, and acute congestive cardiac failure [2] could have affected his final status.

The tumor may have impinged upon vital conduction centers, interrupting the electrical stability of the myocardium [3]. Small tumors, though benign, have been found to influence both the atrioventricular node and the conduction fiber system, leading ultimately to death [4-6]. Infiltrations of fat or amyloid into the bundle of His may act in a similar manner.

The association of alcohol with both toxic myocardial injury and nutritional (thiamine) deficiency is well established [7,8]. No data were here presented to support alcoholic cardiomyopathy as a fatal factor.

There remains an additional explanation for the demise of this man. It is acknowledged that myocarditis can eventuate in sudden death [9-11]. The histological features illustrated would seem compatible with a diffuse cellular myocardia infiltration that involved the myocardial fibers, interfering with their proper contraction and affected the conduction system, hampering the flow of impulses.

One might be tempted to speculate, when pondering a report by Stevens and Underwood Ground [12], that a traumatic episode of minor degree, in conjunction with an existing myocarditis could, indeed, have precipitated the sudden death of this individual.

Stephen R. Greenberg, Ph.D.
Department of Pathology
University of Health Sciences
The Chicago Medical School
3333 Green Bay Rd.
North Chicago, IL 60064

References

- [1] Tedeschi, C. G., Eckert, W. G., and Tedeschi, L. G., *Forensic Medicine*, Vol. 1, W. B. Saunders Co., Philadelphia, 1977, p. 19.
- [2] Engel, G. L., "Sudden and Rapid Death During Psychological Stress," *Annals of Internal Medicine*, Vol. 74, 1971, pp. 771-782.
- [3] Almange, C., Lebreteux, T., Louvet, M., Courgeon, P., Guerin, D., and Leborgne, P., "Bloc Auriculo-ventriculaire Complet par Metastase Cardiaque: A Propos d'une Observation," *Semaine Des Hopitaux Informations* (Paris), Vol. 54, 1978, pp. 1419-1424.
- [4] Wolf, P. L. and Bing, R., "The Smallest Tumor which Causes Sudden Death," *Journal of the American Medical Association*, Vol. 194, 1965, pp. 674-675.
- [5] James, T. N., Carson, D. J. L., and Marshall, T. K., "Fibroma Compressing His Bundle," *Circulation*, Vol. 48, 1973, pp. 428-433.
- [6] Bloor, C. M., *Cardiac Pathology*, J. B. Lippincott Co., Philadelphia, 1978, p. 387.
- [7] Burch, G. E. and Depasquale, N. P., "Alcoholic Cardiomyopathy," *American Journal of Cardiology*, Vol. 23, 1969, pp. 723-73.

- [8] Rubin, E., "Alcoholic Myopathy in Heart and Skeletal Muscle," *New England Journal of Medicine*, Vol. 301, 1979, pp. 28-33.
- [9] Gould, S. E., *Pathology of the Heart and Blood Vessels*, 3rd ed., Charles C Thomas, Springfield, IL, 1968, p. 733.
- [10] Schwartz, C. J. and Walsh, W. J., "The Pathologic Basis of Sudden Death," *Progress in Cardiovascular Disease*, Vol.13, 1971, pp. 465-481.
- [11] Camps, F. E., *Gradwohl's Legal Medicine*, 3rd ed., Year Book Medical Publishers, Chicago, 1976, p. 231.
- [12] Stevens, P. J. and Underwood Ground, K. E., in *Aerospace Medicine*, Vol. 41, 1970, pp. 776-780.

Author's Reply

Dear Sir:

We see little point in commenting on the speculations of the possible end mechanisms that resulted in death. Speculation was not the purpose of this paper.

Louis Roh, M.D.
Deputy Medical Examiner
Westchester County
Office of the Medical Examiner
Valhalla, NY 10595

Detection of Accelerants on a Burn Victim

Sir:

One of the procedures in handling burn victims whose skin is dirty and soiled is to wash the body carefully and gently so as to avoid disturbing any evidence of injury, for example, trace evidence, gun powder, and so forth. It is during such a procedure that careful examination of the water from the washed body must be done.

The following case reveals how this procedure helped to detect a homicide, even though the fire had been initially determined to be of nonsuspicious origin. The deceased was found on the living room floor of a single family residence. At autopsy the charred body of a 60-year-old female was seen. While washing the body, immiscible film and droplets reflecting a rainbow color were seen in the water running from the washed body onto the autopsy table which has a solid (nonperforated) surface. The presence of the filmy substance immediately suggested the possibility of the presence of accelerants. A large piece of skin with subcutaneous tissue, pieces of burned clothing and water were each separately and immediately placed in new, unused screw cap jars and submitted to our forensic science laboratory for the detection of accelerants. The presence of gasoline was detected in all three items. Autopsy and subsequent investigation revealed that the victim was manually strangled, that the fire was intentionally set to conceal the evidence and that gasoline had been poured on the body and in the house.

COMMENT: This case demonstrates the value of inspecting the water running from the washed body and the value of a table top with a solid surface. It is doubtful that the filmy substance would have been detected if a perforated table top had been used. All of the samples were subjected to heated head space chromatography; their chromatograms compared with known accelerant standards.

Louis Roh, M.D.
Deputy Medical Examiner
Gary Paparo, M.D.
Medical Examiner
Westchester County
Office of the Medical Examiner
Valhalla, NY 10595