



### **K48 Acute Selenium Poisoning in a Suicide**

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The authors intend to present the latest clinical and forensic science information regarding deaths attributed to acute selenium intoxication.

Selenium (Se) is a gray non-metallic chemical of the sulfur group widely used in commercial applications and therefore, a source of common human exposure. Industrial usage includes solar energy, semiconductor processing, and the manufacturing of electronics and ceramics. It is present in steel and copper alloying, metal pigmentation used in glass and paint manufacturing, rubber vulcanization, nutritional supplements, Selsun™ shampoo, and in gun-bluing agents. Selenium is also an essential mineral in the daily human diet, as there are cases of selenium deficiency syndrome.

Cases of acute selenium intoxication, as reported in the medical literature, are rare. The authors present a case of a fatal acute selenious acid intoxication covering clinical presentation prior to death, pertinent autopsy findings, and postmortem tissue concentrations. In this case, death resulted from suicidal ingestion of a gun-bluing agent by a young adult. The patient initially experienced nausea and vomiting, followed by pulmonary edema and a rapid cardiovascular collapse approximately 3 to 4 hours post-ingestion. Postmortem toxicologic analysis of whole blood yielded toxic levels of selenium. In addition, tissue samples of brain, kidney, and liver contained high levels of selenium.

#### **Selenium, Intoxication, Acute Poisoning**