



H23 A Rare Snake Bite-Related Fatality: A Case Report

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After attending this presentation, attendees will understand the incidence of snake-related fatalities, the types of venomous snakes in South Carolina, the best immediate management of a bite, and the diagnosis of a snake-related fatality at autopsy.

This presentation will impact the forensic science community by demonstrating the methods necessary for the diagnosis of a snake-related fatality at autopsy in a state and institution where such cases are extremely rare.

Fatal snake bites are exceptionally rare, with less than ten reported nationally in the United States per year.¹ The incidence of fatal snake bites in the state of South Carolina is nearly non-existent.

This study illustrates a case of a fatality related to a venomous snake bite occurring in the state of South Carolina. The decedent was a 71-year-old male with extensive knowledge of the outdoors and local wildlife. The incident occurred in a Wildlife Refuge known to be a habitat for one or more types of venomous snakes. The decedent waded into the water and soon experienced a bite; just prior to being bitten, the decedent and a companion reported hearing a rattling sound, but neither one saw the snake. The decedent rapidly succumbed to the injury within 15 minutes of the bite.

On autopsy, two sets of puncture wounds were noted to the left leg with associated swelling and diffuse hemorrhage into the underlying subcutaneous tissue and musculature of the medial aspect of the leg. Additionally, the decedent was noted to have preexisting hypertensive and atherosclerotic cardiovascular disease, including an enlarged heart with evidence of prior myocardial infarctions. It was concluded that the decedent died of the toxic effects of snakebite with the hypertensive and cardiovascular disease playing a contributory role.

The state of South Carolina has 38 species of snakes of which only six are venomous, including the coral snake, copperhead, cottonmouth, eastern diamond back rattlesnake, timber rattlesnake, and pigmy rattlesnake.² The best and most effective protection from snake bite is knowledge and awareness of one's environment, avoiding areas where venomous snakes may be common.² It is recommended that when having recreational activities or working outdoors in areas where snakes may be encountered, thick boots and leg protection be worn.^{2,5} If a snake bite does happen, the likelihood of survival is increased by remaining calm and getting the victim to a hospital for immediate medical attention.^{3,5} An examination of the bite wound by a medical professional may be able to differentiate venomous snake bites, which usually have a set of two puncture marks, from a non-venomous snake bite.

The majority of snake bites are accidental and occur on the lower extremities. The key physical findings on autopsy in a case of snake bite/envenomation is the identification of the puncture wounds, localized swelling, and examination of the underlying soft tissue.^{4,5} These findings may be subtle and can be easily missed. Additional autopsy findings may include anaphylaxis, hypotension, cardiovascular compromise, and myonecrosis.^{4,5} A team approach is valuable in investigations of snake-related deaths as documenting the presence of a venomous snake and history of envenomation when combined with autopsy findings make a more accurate and specific determination into the cause and manner of death.



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Snakebite, Venomous Snakes, Envenomation