



Pathology/Biology Section - 2016

H51 A Fatal Moose Attack

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After attending this presentation, attendees will appreciate the possibility of a fatal moose attack when encountering a dead body in a boreal area. The value of utilization of experts from other fields of study, prudence regarding scene integrity, and thoughtful sampling for trace material is also illustrated.

This presentation will impact the forensic science community by reporting an unexpected cause of death, that of a fatal moose attack, when investigating a traumatic death in a boreal area.

Fatal animal attacks are uncommon. In the United States, the most common non-venomous species involved is dogs; however, fatal moose attacks are extremely rare, with only one case previously reported in the scientific literature.^{1,2}

During the early fall in rural Sweden, a woman in her sixties was walking her dog in the woods. When she failed to return home in the evening, her spouse went looking for her, only to find her severely injured dead body by a small lake in the forest, lying beside a row boat. Her body exhibited widespread, severe blunt trauma, including a conspicuous, deep laceration on the right leg, and her jeans were torn from the waist down. Still, only a small amount of blood was initially found at the scene.

A homicide investigation was started and initially the scene was regarded as a dumping site rather than a crime scene. The autopsy revealed grass tucked deep into some of the large wounds. Severe thoracic injuries with flail chest was found to be the cause of death. At the outset, the victim was assumed to have been run over with the prime suspect's riding lawn mower; however, reconstruction with the lawn mower and results from the initial forensic investigation provided no support to this theory.

Later, a bloodstain pattern analysis on the boat revealed that the victim had been struck numerous times at the scene, inspiring alternative theories as to the mode of death, primarily featuring a possible animal attack. The views of a wildlife specialist at the Swedish University of Agricultural Sciences were sought, leading to subsequent revision of the case and further sampling. This resulted in a turning point in the investigation, owing to trace material from the victim and her clothes that was later recovered and proved to originate from a moose, specifically saliva and hair; however, confirming moose tracks at the scene was not possible due to rain and disruption by first responders.

It was finally concluded that the woman's dog likely provoked a moose, catalyzing an attack that ultimately targeted the woman and included goring as well as trampling.

The pattern of injury in this case resembles those previously reported from attacks by cattle.^{3,4} Fatal moose attacks constitute an extremely rare threat in boreal areas, but can be considered in traumatic deaths of unknown cause.

Reference(s):

1. Forrester J.A., Holstege C.P., Forrester J.D. Fatalities from venomous and nonvenomous animals in the United States (1999–2007). *Wilderness & Environmental Medicine* 2012;23:146-152.
2. Örnehult L., Eriksson A., Björnstig U. Fatalities caused by nonvenomous animals: A ten year summary from Sweden. *Accident Analysis and Prevention* 1989;21:377-398.
3. Dogan K.H., Demirci S., Erkol Z., Sunam G.S., Kucukkartallar T. Injuries and deaths occurring as a result of bull attack. *Journal of Agromedicine* 2008;13:191-196.
4. Norwood S., McAuley C., Vallina V.L., Fernandez L.G., McLarty J.W., Goodfried G. Mechanisms and patterns of injuries related to large animals. *Journal of Trauma and Acute Care Surgery* 2000;48:740-744.

Animal Attack, Moose, Boreal Death