



H56 It's Still the Wild West: A Case Report and Review of Arrow-Related Deaths in Oklahoma

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The goals of this presentation are to: (1) highlight the types of injuries sustained by crossbows as well as the different characteristics involved in crossbow deaths; (2) reiterate the need for adequate radiologic surveys when dealing with all projectile-related deaths for both accuracy and the safety of personnel working on the case; and, (3) delineate the differences between a bow and a crossbow and describe the different types of arrowheads commonly used.

This presentation will impact the forensic science community by introducing a unique method of suicide as well as details regarding the extensive injuries that can be sustained in a crossbow-related death. It is critical that all projectile-related deaths have proper radiologic surveys before beginning the autopsy.

Introduction: When one thinks of projectile injuries and death in a forensic setting, one's first thought is inevitably about bullets, pellets, and a gun that fires them; however, projectile injuries are not always induced by said ammunition. Different types of bows and crossbows that fire arrows and bolts are still often used for archery and hunting. They can also inflict injuries seen in decedents. This report describes a case of a 51-year-old White male who died after a self-inflicted crossbow injury and a review of the Oklahoma Office of the Chief Medical Examiner's (OCME's) electronic database for similar cases.

Case History: A 51-year-old White male was found unresponsive in his residence, seated in a chair with a crossbow between his legs and an arrow protruding from his neck. Shortly before, his wife had left the residence after a domestic dispute and went to a neighbor's house. This neighbor later found the man in the aforementioned position and summoned emergency personnel, who transported him to a hospital where he was pronounced deceased.

Results: The postmortem examination demonstrated a 21.75-inch-long arrow that perforated the skin and soft tissue of the left anterior neck and submentum before entering into the oral cavity. The arrow bypassed the tongue and perforated the soft palate and bones of the left cranial fossae before entering the cranial cavity. Grazing the brainstem, the arrow perforated the left cerebellum, left occipital lobe, left parietal lobe, and left parietal bone before penetrating the scalp. In addition to hemorrhage and maceration of the brain along the wound path, subdural hemorrhage, subarachnoid hemorrhage, and cerebral contusions were also identified. The arrow, a fragmented arrow tip, three retractable arrow tip blades, and metallic fragments were recovered. The cause of death was determined to be "Crossbow wound of the head and neck" and manner of death was "Suicide."

Discussion: Projectile injuries are common in a forensic setting; however, as a database query revealed, projectile injuries from arrows are quite rare. Multiple variously worded searches of the Oklahoma OCME electronic database revealed only three additional cases (two suicides and one homicide) with similar causes of death (sharp/arrow injuries of the head or chest) from its implementation in January 2000 to March 2016. Although approached much like any other type of projectile injury, an arrow is relatively unique given the potential for multiple detached sharp metallic parts and fragments, as seen in this case. Performing an adequate radiologic survey of the wound path before the postmortem examination is paramount to prevent injuries from occurring during evidence recovery.

Bow, Arrow, Projectile

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