D27 Gunshot Injuries to Automobile Occupants: The Milwaukee Experience

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After attending this presentation, attendees will be able to recognize characteristic patterns of gunshot injury, atypical entrance wounds, and confounding associated injuries often suffered by victims of gunshot wounds who were occupying automobiles. This presentation will alert the forensic community to these injuries, improve their interpretation and improve reconstruction of homicide scenarios involving automobile occupants, who often have left or been dumped from a vehicle, or been removed from a vehicle during resuscitation efforts.

This presentation will impact the forensic community by increasing the awareness and improving the interpretation of the wound patterns and confounding associated injuries suffered by gunshot victims who were occupants of automobiles.

A comparison of Milwaukee County homicides involving gunshot wounds to automobile occupants during 1994 and 2004 is made to determine whether there is an increasing incidence of these deaths. Of 156 deaths classified as homicides in 1994, 14% (n=22) involved gunshot wounds to automobile occupants. This percentage increased in 2004, when 18.6% of 97 deaths classified as homicide (n=18) involved automobile occupants. Selected cases from both years are presented to demonstrate characteristic patterns of injury in this setting.

Gunshot entrance wounds usually have a punched-out circular-tooval appearance, with a surrounding area of abrasion caused when the bullet pierces the skin. Exit wounds are typically larger and more irregular than entrance wounds because the bullet loses rotational stability ("tumbles") as it passes through dense tissue, and deforms as it hits structures such as bone. Entrance wounds can have an atypical appearance when a bullet loses stability before entering the body. This may be due to ricocheting, weapon/ammunition mismatch, poor weapon construction, or the presence of intermediate targets.

Automobile occupant victims frequently display atypical gunshot entrance wounds because intervening glass or frame material deflects and deforms the bullet before it enters the victim's body. Atypical reentry wounds are the result of the bullet first passing through an upper extremity before reentry into the body. The perforation may have an irregular shape, with surrounding area of irregular abrasion. Tears surrounding the perforation may result in misinterpretation as an exit wound or, conceivably, as a contact entrance wound. Broken glass or other material from intermediate targets can also cause surrounding punctate abrasions and lacerations (so-called "pseudo-stippling") that may be confused with actual powder stippling of an intermediate range wound. Passage of semi-jacketed bullets through intermediate targets can also result in separation of the jacket from a bullet, resulting in large, irregular entrance wounds or even separate entrance wounds.

In the case of multiple gunshot wounds, the individual bullet paths tend to demonstrate the same spatial trajectories through the body (i.e., multiple entrance wounds to the same side of the body with the same front/back and up/down angles). If the victim is still able to move after the initial wounds, further entry wounds are sometimes found to the back, thighs, or buttocks. These would be the presenting targets to the shooter as the victim tries to escape further injury (by climbing over a seat or attempting to exit the opposite door). If initial x-rays of the body reveal a bullet not accounted for by the other entrance wounds and their corresponding bullet paths, careful examination of the buttocks and perianal area will sometimes reveal an additional well-hidden entrance wound.

Gunshot, Automobile Occupants, Homicide

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