

H54 Gunshot Defense Wounds: The Need for a Classification

*Giampiero Bottari**, Istituto di Medicina Legale, Bari, Bari, Puglia, ITALY; *Cristina Elena Rosa Caterino*, University of Bari, Institute of Legal Medicine, Bari 70124, ITALY; *Marcello Benevento*, University of Bari, Institute of Legal Medicine, Bari 70124, ITALY; *Davide Ferorelli*, Bari, ITALY; *Biagio Solarino, PhD*, Università degli Studi di Bari, Bari 70125, ITALY; *Silvia Trotta*, Institute of Legal Medicine, Bari 70124, ITALY

Learning Overview: After attending this presentation, attendees will understand how gunshot murders can be associated with the presence of injuries located on forearms and hands attributable to defense attitudes.

Impact on the Forensic Science Community: This presentation will impact the forensic science community by stressing the importance of the categorization of gunshot defense wounds as well as in cases of stab defense wounds.

Defense wounds are injuries caused by the victims attempting to defend themselves. In blunt or sharp force assaults, defense injuries are typically seen on the arms and hands; rarely, they can be found on the feet or legs. Defense wounds in firearm injuries are rarely reported in the literature and occur when an arm is raised in a desperate attempt to shield the trunk and head from the blast.

Case 1: A 33-year-old male was found dead with multiple gunshot wounds. The circumstantial information revealed the shooting followed an altercation between the victim and one or more perpetrators. A complete medicolegal autopsy was performed. Wound locations, appearances, paths of the missile, injuries produced, and exit wounds were reported. The gunshot wounds are summarized thus: (1) left upper chest (entrance wound) → left lung → heart → diaphragm → aorta (retained bullet); (2) right abdomen (entrance wound) → left sacrum (retained bullet); (3) back of right hand (entrance wound) → palm (exit); and (4) channel wound on left hand → lower forearm (entrance wound) → upper forearm (exit). It was argued that the second and third trajectories could be due to a single gunshot.

Case 2: A 50-year-old man was killed by his son with multiple sawed-off shotguns. The wounds were thus analyzed: (1) left scapula (entrance wound) → upper lung lobe left → upper tract of the descending thoracic aorta → fracture of the second and third ribs → left anterior thoracic region (exit); (2) large gaping wound on lower left forearm (entrance wound) → upper forearm (exit); and (3) channel wound on lower left forearm (entrance wound) → upper forearm (exit).

In assaults of any kind, the natural reaction of the victims is to protect themselves. Limbs used for protection can themselves be injured. These defense wounds may be of considerable medicolegal significance as they indicate that the victim was conscious, at least partly mobile, and not taken completely by surprise. The classic position of defense wounds is on the forearms and hands, which can be instinctively raised to protect the eyes, face, and head. Defense wounds from knives consist of cutting wounds, as the blade is drawn across the tightly applied skin. Defense wounds also occur in firearms injuries, where an arm is raised in a desperate attempt to shield the trunk or head from the blast. The bullets may not stop on the impacted surface but may instead penetrate the tissues. The exact self-defense movements are extremely difficult to reconstruct as the victim was conscious and capable of many movements; his/her upper limbs could perform movements of adduction, abduction, extension, flexion, circumduction, rotation, supination, or forward and backward movement. The fundamental concepts of firearm pathology using characteristics of entry wounds (round shape, diameter smaller than bullet diameter) and exit wounds should still be applied. In murder cases, an accurate reconstruction of the events should include classifying gunshot defense wounds. These cases highlight the need for classification for gunshot defense injuries into passive or active categories. Passive gunshot defense injuries could be used to describe when the victim raises their hands or arms for protection, while active defense wounds would be when the victim tries to seize the weapon or the attacker's weapon-holding hand.

Forensic Ballistic, Gunshot Murder Cases, Gunshot Passive Defense Injury