E87 Terrorist Attack: The Identification of Destructive Lesions

Lorenzo Spagnolo, MD, Department of Forensic Pathology, Foggia, Foggia 71122, ITALY; Giuseppe Bertozzi, MD*, Department of Forensic Pathology, Foggia 71121, ITALY; Luigi Cipolloni, MD, PhD, Department of Forensic Medicine Sapienza Rome, Rome 00161, ITALY; Benedetta Baldari, MD, Rome 00161, ITALY; Livia Besi, Roma, ITALY; Michela Ferrara, MD*, Department of Forensic Pathology, Foggia 71122, ITALY; Stefania De Simone, MD, Department of Forensic Pathology, Foggia, Foggia 71122, ITALY; Vittorio Fineschi, MD, PhD, University of Foggia, Foggia I-71100, ITALY*

Learning Overview: The goal of this presentation is to demonstrate the methodological approach to wound evidence that comes from different weapons used on the victims of terrorism in war zones. The focus is on the main macroscopic elements used for the preliminary distinction between different weapon injuries in order to guide the initial phases of the investigations and for the identification of problems following destructive lesions.

Impact on the Forensic Science Community: This presentation will impact the forensic science community by informing attendees of the need to create a task force made up of forensic specialists, pathologists, radiologists, and dentists ready to intervene quickly in order to carry out the preliminary crime scene investigations, external examinations, and identification of the bodies in cases of death due to terrorist actions. The preventive acquisition of elements capable of allowing personal identification (fingerprints, radiographic assessments, and genetic typing) is necessary for military personnel engaged in high-risk areas.

In the past 20 years, terrorism, especially that linked to Islamic fundamentalism, has arisen all over the world and won the front pages of newspapers due to the brutality and the number of victims, including both soldiers engaged in peacekeeping missions and civilians in the West world as well as in the Middle East. A collection of cases of death by terrorist attacks will be presented.

Explosions, firearms, and air crashes are the main manner of killing. Explosions are the most frequent, causing almost 80% of the deaths, with 71% of deaths being military personnel, 22% being civilians, and 7% being hostages—both civilian and military.

In deaths due to explosions, the principal means used are cars or wagons filled with explosives, mixed with various types of metallic material added to increase the damage resulting from their projection in the space surrounding the explosion. The lesions found on the bodies of the victims vary according to the distance from the explosion: bodies found in the immediate proximity showed blast injuries with destructive lesions but also vast burns; the bodies found at greater distances showed missile injuries deriving from multiple splinters as minor as they were distant from the center; the bodies found farthest away mainly showed crushing injuries due to the collapse of buildings. The identification of the victims was often a major problem, especially for bodies found near the center of the explosions.

In deaths due to gunshot, the most used weapon is the gas-fired selective assault rifle Avtomat Kalashnikov (AK) both in the primal version (AK-47), firing the 7.62x39mm cartridge, and the next version (AKM-74), firing the 5.45x39mm cartridge. The macroscopic form of the entry wound as well as the exit wound was not regular and depended on the surface it traveled through before the impact with the body (e.g., car, doors) and during the intracorporeal trajectory (bones). Gunshots were also the usual cause of death among hostages. In these cases, the body is usually found several months after death, which often poses a problem related to the identification of the victims and to the establishment of the time of death.

Air crashes in the war zone principally refer to helicopters, which are the most-used means and, therefore, the most exposed to mechanical failures; and they are often targeted by enemy artillery or snipers. The external examination of the bodies recovered after a helicopter crash showed great precipitation trauma as well as heat lesions. In these cases, similar to explosion deaths, identification was not always possible due to the presence of destructive lesions.

During the initial phases of the investigations, the identification data of all the possible victims was preliminarily collected. These data had been crossed with the elements coming from the crime scene investigation (clothes, objects, identification plates) and the examination of the corpses (connotations, tattoos, dental prostheses). The collection of the circumstantial data, together with the external examination of the bodies with the macroscopic evaluation of the lesions, was often conclusive regarding the means of death in bodies with destructive injuries. Complete autopsies were then performed on the bodies and bone (femur) samples were taken for subsequent genetic investigations.

Terrorist Attack, Destructive Lesions, Methodological Approach