G39 Sternal Shard From Bystander Bullet: A Rare Mechanism of Homicide

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After attending this presentation, attendees will become aware of unusual locations a bullet may reach in the in body, and understand how a gunshot wound can cause death without the bullet penetrating into the chest cavity, or injuring any vital organ.

This presentation will impact the forensic community and/or humanity by making the attendee aware of fractured sternal fragments as possible injuring substances in a death in which a bullet does not penetrate into the chest cavity, and achieve agreement on whether a death in such a circumstance can be considered accidental, or whether the manner is more appropriately to be deemed a homicide.

An 18-year-old senior high school student, who was captain of the local track team, exited an all-night pancake restaurant after two o'clock on a Saturday morning. He passed through the restaurant parking lot at the time that a gun battle was going on between adversaries on the opposite side of a busy six-lane surface street. The adversaries, who were exchanging shots after exchanging words at a nightclub, were unknown to the victim. It is likely that he was not aware of the gun battle on exiting the restaurant.

A bullet from the exchanged fire crossed the highway, and struck the young man in the chest. He collapsed in the parking lot. Emergency medical services both en route and at the local trauma center provided resuscitative efforts for more than an hour, without avail. Emergency thoracotomy revealed a large amount of blood in the chest.

At autopsy, the gunshot wound had a slightly atypical appearance, in that it consisted of a ½" oval, with a broader than usual central perforation. There were 250 cc of blood remaining in the chest after bilateral thoracotomy; all viscera were markedly pale, and the vascular tree was depleted of blood. In situ thoracic organ dissection revealed the presence of a partially transected right anterior pulmonary vein, with injury to the right atrial appendage. However, despite this clear evidence of an injury path, no bullet could be located for the initial hour of the autopsy.

During the prolonged search for the bullet, a physician, who was observing the autopsy, identified the projectile in the chest plate, which had been set to one side during the dissection, with its undersurface exposed to view. The bullet was clearly visible, impacted in the inner sternum, although it was partially covered by a disrupted shard of fractured bone from the inner cortex of the sternum. This shard of bone, with a triangular shape like a knife blade, projecting at close to a right angle from the inner cortex, had lacerated the pulmonary vein and right atrium. The bullet which caused death had done so without entering the thoracic cavity, and without perforating any vital structures, because it dislocated a sternal shard from the inner cortex of the sternum, at an unfortunate angle which was responsible for death.

The shooter claimed self-defense, in that he was returning fire on a person who, he stated, was firing at him from within a car across the parking lot. The mechanism of death supported his contention that he did not intend to fire at the victim. Three months later, free on bail, he was arrested with three other men after a drug-surveillance related gun battle with police.

The mechanism of this unusual chain of events leading to death will be discussed, utilizing autopsy photographs, with consideration of the appropriate manner of death.

Sternal Shard, Gunshot Wound, Bystander

 ** Presenting Author*