

CASE REPORT

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A Unique Missile in a Homicide Victim: The Brenneke Shotgun Slug

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ABSTRACT: A young black male was shot to death by an unknown assailant who then fled the scene. The medical examiner who responded to the scene noted a freshly deformed metal screw in the immediate vicinity of the body. The autopsy findings of additional, very similar screws in the body, noted on X-ray and consistent with having caused the injuries sustained, revealed the missiles to be 12-gauge Brenneke shotgun slugs.

KEYWORDS: criminalistics, ballistics, wound ballistics, shotguns, Brenneke, shotgun slug, slotted screw, Phillips screw

A 23-year-old black male was seated in an armchair on his front porch when an unknown assailant drove up and shot him through a chainlink fence that separated the front porch from the roadway. Several rounds were fired at the deceased. After the shooting was over, a 1-ft (0.3-m) defect was left in the chainlink fence. The medical examiner who responded to the scene noted a deformed metal screw adjacent to the body of the victim (Fig. 1), interpreted at that time to be either part of a junk load or a part of the chainlink fence that became a secondary missile.

This case stresses the importance of visiting the crime scene and the value of postmortem X-rays on all gunshot victims.

Autopsy Findings

At autopsy, the deceased had several irregular ragged wounds. One wound, characterized as an entrance wound, was on the right upper arm (Fig. 2). The missile fractured his right humerus and lacerated the surrounding soft tissues to exit through the medial aspect of the right upper arm. A similar, but larger entrance wound, was on the upper anterior chest (Fig. 2) with no exit wound. This missile lacerated both lungs and the heart. In both of these wounds and along both missile paths through the body were recovered components of the

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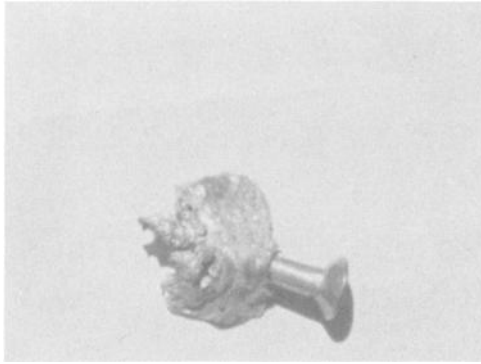


FIG. 1—*Deformed screw found at crime scene.*



FIG. 2—*Entrance-type gunshot wounds on the right arm and upper chest.*

Brenneke shotgun slug, that is, wadding, screws, and the circular perforated cardboard disks which bore the word "Brenneke" on it. Both thighs had ragged defects posteriorly (Fig. 3) consistent with having been shot while the decedent was in a sitting position.

On the left leg, the wound was proximal to the popliteal area, and on the right side, the wound was lateral to the popliteal area. The wound on the left leg was characterized as a deep gouging graze wound. The right leg wound did have an exit medial to and above the popliteal area. None of these wounds had missile fragments in them.

The X-rays were interesting from the standpoint of aiding in missile identification. Deformed screw-like shadows were noted on the chest film (Fig. 4). This finding, along with the recovery from the wound paths of the metal slug, the characteristic circular perforated cardboard disks, wadding, and screws, aided in the identification of this unique type of ammunition (Fig. 5).

Discussion

The Dade County Medical Examiner case files involving gunshot wounds were reviewed from 1957 to date in an effort to review similar cases. This was the only case where the



FIG. 3—Gunshot wounds, backs of both legs.

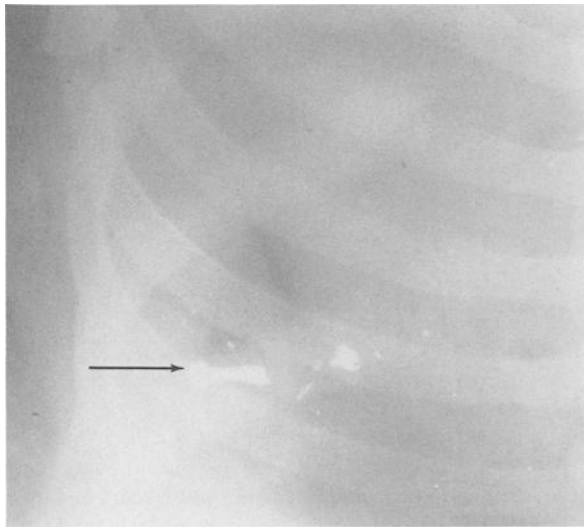


FIG. 4—Deformed screw noted on postmortem chest X-rays.

Brenneke shotgun slug was used in a shooting. Being unaware of this type of ammunition and noting the screw at the death scene, the medical examiner was of the opinion that this was a junk load put together by the assailant or a part of the chainlink fence which was the intermediary target.

The Brenneke slug was developed in Germany in 1898. It has a cylindrical head with a hemispherical tip of hard lead alloy. A felt wad contained between two disks is screwed to it. The longer profile provided by the wad allegedly decreases tumbling and improves accuracy. The twelve diagonal guiding ribs arranged around the periphery of the head of the slug are readily compressible and are pressed uniformly flat inside any choke bore. Since its center of gravity is located well forward, the Brenneke slug travels like an arrow, in contrast to rifle

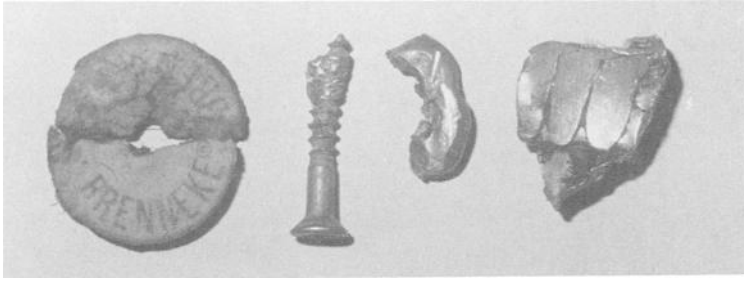


FIG. 5—Components of missile retrieved from victim's body.

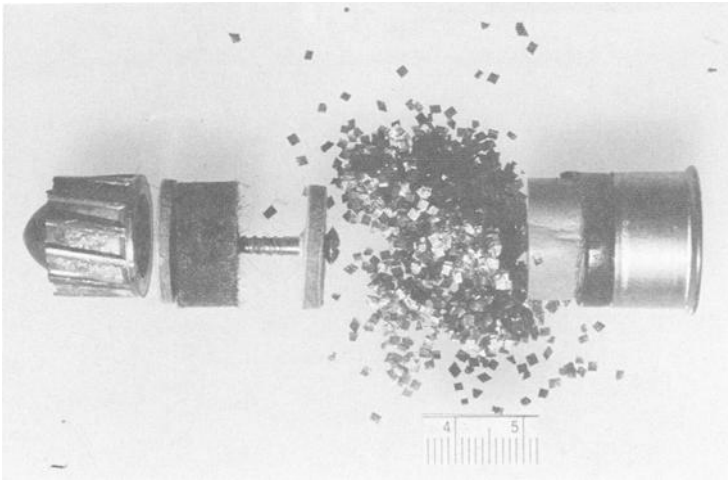


FIG. 6—Component parts of missile.

bullets which are stabilized by the spin imparted by the rifling. In the case of the smooth bore slug, stability in flight is impaired by the air flow past its base [1,2].

The original Brenneke cartridge comes in 12, 16, and 20 gauge, and is manufactured by Dynamit Nobil (West Germany). According to the manufacturers, the original Brenneke slug ensures dependable accuracy at a range of 50 to 60 yards (45 to 55 m). Because of its power, it is most suitable and has been used for deer and big game hunting, that is, lions and tigers.

The lead slug weighs 27.58 g. The entire projectile, that which is found in the target and dependent on range of fire, is a screw, either a slotted or a Phillips-type head, the lead slug, and the wad. The screw is 0.818 in. (2.077 cm) in length and is used to hold the component parts of the missile together by passing through the wad and into the base of the metal slug. The entire projectile (Fig. 6) weighs 30.93 g. The charge consists of 34 g of square flake powder with a boxer-type primer.

Conclusion

Despite the retrieval of the deformed screw at the crime scene, the missile was not identified by either the crime scene personnel or the medical examiner. The reason was the unique-

ness and the infrequent use of this missile, with man as the target. The crime scene analysis, autopsy findings, and the postmortem X-rays provided the clues necessary to identify the missile.

This case study stresses the need for postmortem X-rays of all gunshot wound victims. It is conceivable that not being familiar with this ammunition and without the aid of postmortem X-rays, that only the metal slug and wadding would have been recovered. It is essential that when the Brenneke shotgun slug is the missile involved, all the component parts should be diligently searched for in the victim.

References

- [1] Pamphlet, Brenneke information from the work of DEVA, Wilhelm Brenneke KG, Getgr 1895 II Menanweg.
- [2] DiMaio V. J. M., *Gunshot Wounds. Practical Aspects of Firearms, Ballistics, and Forensic Techniques*, Elsevier, New York, 1985, Chap. 8, Wounds from Shotguns, p. 179.

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