SELF-WOUNDING OF ASSAILANTS DURING STABBING AND CUTTING ATTACKS [1]

Jim Varnon [2]
Max Courtney [3]
Thomas R. Ekis [3]

ABSTRACT

Involvement by the authors in the investigation of homicides involving stabbings and cuttings has revealed a number of instances wherein the assailant also sustained some injuries during the struggle. Seven separate mechanisms for self-wounding by persons wielding knives or other sharps are proposed. A number of case histories are presented to illustrate the various mechanisms of self-wounding. Evidential implications are discussed.

INTRODUCTION

The literature provides adequate descriptions of injuries to victims, including defensive injuries, caused by knives and other sharp instruments. (1, 2) However, there appears to be a paucity of information concerning the self-wounding injuries sustained by the assailant during the attack. Brief descriptions are provided by Adelson (3); "Occasionally the assailant is injured during the fracas...A 'trail of blood' may be found during the investigation of a cutting or stabbing homicide, made either by the victim or the assailant." A case history involving serial murderer William Macdonald, the "Sydney Mutilator" of Australia, describes wounds to Macdonald. "He cut his own hand badly, and had to go to a hospital to have it stitched, claiming he had cut himself on a breadknife." (4)

The authors have been involved in a number of cases wherein such injuries have occurred. In several instances, these injuries and the resulting physical evidence have proven of great consequence in the resolution of the case. A review of the exemplar cases gives rise to several physical mechanisms described below whereby such wounding could, and likely does, occur.

If one considers the reasons for such a scarcity of information about this type of injury to the perpetrator, several possibilities come to mind. First, most forensic articles describing wound patterns are written by medical examiners; they generally see only the wounds of the deceased victim, and not the surviving assailant. If anyone notes the wounds to the perpetrator, it probably will be the police investigator or emergency room personnel; such notations are unlikely to find their way to publication in forensic journals. Also, perhaps the documentation of an injury to the suspect is viewed as counterproductive to the investigation, lending an air of sympathy or even giving rise to a self-defense claim. Possibly in some cases crime scene technicians are not adequately trained to analyze a crime scene fully and thus fail to recognize and collect evidence of injury to the perpetrator. In at least some cases, only after some time has passed do the injuries to the assailant become known, and perhaps it simply wouldn't occur initially to the scene investigator to look for evidence of such wounds. Finally, if some time has passed before discovery of the self-wounding, it is likely that in some cases poor communication simply would prevent the investigator or prosecutor from putting the two sets of facts together.

THE KNIFE

The use of tools and weapons greatly precedes the recorded history of man. The archeological record establishes that Neanderthal man (c. 100,000 B.C.) used a pointed stone spear head; and that Combe Capelle man (c. 35,000 B.C.) had developed a stone knife. The advent of the Bronze Age (c. 1400 B.C.) and the later Iron Age (c. 850 B.C.) brought about greatly-improved weapons, including knives. (5)

[1] Publication pending.
[2] Police Department, Fort Worth, Texas.
[3] Forensic Consultant Services, Fort Worth, Texas.

Hunting or combat knives are designed to protect the user. A guard is generally found between the blade and the handle (hilt), to prevent one's hand from slipping from the handle to the blade. Often a pommel or bolster is found at the handle's end to prevent the knife from slipping or being pulled from the user's hand.

Much of the design history of knives as weapons is trapped in folklore. Probably the most famous fighting knife is the Bowie knife, whose exact origin is not agreed to by all. (6) One mythical account of its design is laid to Rezin Bowie, brother of Jim Bowie, who reputedly cut his fingers while plunging a knife into a heifer; hence, the guard between blade and hilt commonly found on such knives. Another tale relates how Jim Bowie lost his grip on a knife during a fight with a Native American, which led to the pommel at the end of the hilt. While legends abound, such design features are, nevertheless, important to an understanding of the various methods by which an assailant could sustain self-wounding injuries, or avoid them, during an attack.

MECHANISMS FOR SELF-WOUNDING

During a violent attack with a knife or similar sharp instrument with its ensuing struggle, there may be numerous opportunities for the assailant also to sustain injuries. By the very nature of such an assault, often with hand-to-hand combat and with multiple thrusts or slashes, it is quite difficult for the knife wielder to control each action. The following seven scenarios are proposed as possible causative factors in self-wounding.

Mechanism 1: While stabbing the victim, the assailant hits bone or otherwise resistant material. The abrupt stopping of the knife causes the assailant's hand to slide forward, allowing the hand gripping the knife to slide across the blade. Such a scenario typically would cause a slicing of the palmar surfaces of the hand or fingers. If the attack continues after the hand is cut, the presence of the assailant's blood on the knife handle reduces the gripping ability further, making even multiple self-wounding likely.

Mechanism 2: If the assailant wields the knife in one hand and tries to restrain the struggling victim with the other, it is possible that the assailant's hand on the victim will suffer a stab wound during the multiple thrusts. Such a stab wound would commonly be seen on the back of the hand or fingers or on the arm of the free hand.

Mechanism 3: If a folding knife without a locking blade, such as a jackknife, strikes a resistant surface, the knife blade can fold across the assailant's hand. Such an event would typically cause a guillotine-like knife-edge wound, either across the outer surfaces of the fingers or across the wrist or the heel of the palm, depending upon the knife's orientation in the assailant's hand.

Mechanism 4: Due to the great momentum involved in a typical stab, the knife may be capable of becoming lodged in bone or connective tissue. If the assailant attempts to remove the knife during the continuing struggle with the victim, it is possible that the hands could grasp the partially-exposed knife blade and cause slicing wounds to the palmar surfaces.

Mechanism 5: In a slashing action with a knife or other sharp-edged weapon, a glancing blow against the victim or a complete miss may, by the weapon's momentum, cause a slash injury to the assailant. Because of the virtually limitless degrees of freedom in how this slashing motion may be delivered toward the victim, the resulting injury to the assailant could occur to almost any part of the assailant's anatomy.

Mechanism 6: Similarly, defensive actions by the victim may cause a redirecting of the weapon's arc into the assailant. Again, the variety of possible movements makes for a limitless list of injuries possible.

Mechanism 7: In a struggle for control of the weapon, the assailant may grab for the weapon. This could result in slicing wounds to the palmar surfaces of the hand or fingers of the assailant.

It can reasonably be seen that some of these mechanisms are directly related to the design of the knife used. The absence of a guard between the hilt and blade certainly makes Mechanism 1 more likely, since the presence of such a guard would prevent the slipping of the hand onto the blade when the knife abruptly stops. Obviously the folding blade is unique to jack knives and other pocket knives; injuries as related in Mechanism 3 would be possible only with such a knife. Also, the absence of a bolster on the end of the hilt would make extraction of a knife from a victim more difficult, possibly begetting actions similar to Mechanism 4. It would seem likely that, in some instances, a description of the types of wounds found on the assailant possibly could be correlated with the murder weapon.

BLOODY PRINTS ON KNIFE BLADES

It is possible that the assailant may deposit bloody fingerprints or palm prints on the knife blade, in accordance with Mechanisms 1 and 4, above. The bloody fingerprints, of course, would be very damaging evidence in themselves if they were identified to the assailant, as would the blood, if it were associated with the suspect. Finding corresponding injuries on the hands of the suspect simply would provide additional evidence and would allow the investigator (and ultimately the jury) to better understand exactly what happened during the assault.

ILLUSTRATIVE CASE HISTORIES

Case 1: The defendant was convicted of having murdered the victim by repeatedly stabbing her with a knife and bludgeoning her with a dumbbell. The victim was found lying across a bed. The dumbbell had come apart during the attack. Profuse blood spattering consistent with both medium-velocity impact spatter and cast-off tracks was found on and around the bed. All indicators made it apparent that the entire attack episode had taken place while the victim lay on the bed. Several feet away from the bed a pattern of dropped blood absorbed into carpet was discovered. The nature of this pattern was inconsistent with its having originated from any actions on the bed; the logical conclusion was that the attacker had injured himself and that this would prove to be his blood. Additional stains were found on the bathroom door, the vanity, and the bathtub. An open box of plastic bandages was noted on the vanity, and an empty bandage wrapper was found in the bathroom trash. Conventional serological characterizations of the stains on the floor excluded the victim, and subsequent tests showed the stains to match the defendant's blood. The defendant was arrested several weeks after the offense; his hands bore some healing wounds. He was convicted of murder and given a life sentence.

Case 2: The defendant was convicted of murdering his sister-in-law by multiple stabbing and cutting wounds during a sexual assault. After the attack he apparently placed his hands into the pockets of his denim pants. While numerous bloodstains from the victim on the defendant's clothing were identified by conventional serology and DNA analysis, the blood originally found inside his pockets was clearly consistent with the defendant. The defendant exhibited some fresh cuts on his hands, which he claimed were from his occupation. Further examinations of

his pants revealed some additional bloodstains on the pocket flaps where they would be in contact with his lower torso. These stains were consistent with the victim and inconsistent with the defendant. The defendant was convicted of murder and was given a life sentence.

Case 3: The defendant was convicted of killing the victim by stabbing her and slashing her throat with a linoleum knife. Blood spatter consistent with medium-velocity impact spatter and with cast-off blood was found on the defendant's t-shirt. Conventional serological and DNA tests established the stains to be consistent with the victim's blood. Physical examination of the defendant upon his arrest hours later revealed a very fresh vertical cut on his upper right thigh, which he explained as being an old injury. The pants he allegedly wore during the attack were not recovered. Apparently no thorough search of the crime scene for possibly foreign bloodstains took place. No evidence of the defendant's blood at the crime scene was recovered. The defendant received a life sentence for the murder.

Case 4: The defendants were charged with causing the death of the victim by stabbing him and slashing his throat with a razor-sharp throwing knife during a robbery. The body was wrapped in bed linens and carried into the garage, whence it was loaded into the trunk of the victim's automobile. The body was dumped in an isolated rural location. Examination of the crime scene showed evidence of some low-velocity blood dropping in a periodic fashion. At the scene where the body was recovered some bloodstained paper towels were found. Finally the victim's vehicle was recovered, and numerous transferred contact bloodstains were found. Fresh wounds were found on the hands of the suspect. Analysis of the bloodstains mentioned above show blood consistent with the defendant on the garage floor, on the paper towels at the second location (co-mingled with the victim's blood), and on the car.

Case 5: The defendant was convicted of the stabbing deaths of two young women in their home. The victims together suffered approximately 100 stabs and cuts. Blood spatter examinations showed a path from one victim, downstairs, into a direction of obvious pursuit of the second victim, who was found upstairs. Cast-off and transfer patterns were found along this path. Beside the downstairs victim was found a pair of bloody socks with an apparent stab pattern. Numerous transfer stains, low-velocity stains, and cast-off stains were shown by conventional serology and DNA analysis to be consistent with the defendant's blood. Additionally, a knife and some towels, all bloodstained, were found along the apparent escape route. DNA analysis established all of these stains to be co-mingled from the defendant and both victims. Similarly, co-mingled blood on the defendant's boots was consistent with all three persons. The defendant was found to have fresh knife-like wounds on his hands. It is believed that the defendant wore the socks to avoid fingerprint deposition and stabbed himself through one of the socks. By examining the areas where the defendant's blood was found in the crime scene, it may be reasonably inferred that at least one bleeding wound to the defendant occurred during his attack of the first victim. The defendant was convicted of capital murder and sentenced to death.

Case 6: The defendant was charged with stabbing and slashing the victim outside a tavern. Wounds on the defendant's hands caused heavy bleeding. A clear track of blood was followed from the parking lot, along a sidewalk, across a busy highway, through a convenience store parking lot, and along a sidewalk to a telephone booth outside a second convenience store. The defendant was arrested at

this last location, attention having been drawn to him by the cuts on his hands. Upon being confronted, the suspect gave a statement, wherein he claimed he had been attacked by the victim and had wounded the victim while defending himself. Subsequent investigation revealed that the defendant had purchased the weapon that same day. The defendant entered a guilty plea.

Case 7: The partially-clothed male victim was found deceased at the bottom of the stairs outside his apartment, having suffered between 45 and 50 stab wounds and cut wounds. The interior of the victim's apartment showed evidence of a violent struggle. The victim lived alone, and there was evidence that he and another person had been sitting at the dining room table drinking wine and smoking crack cocaine just prior to the stabbing attack. While investigators were at the scene, police were summoned to a grocery store less than a mile away, where a bleeding male had tried to get a ride in a taxi. This person bore deep cut wounds to the inner surfaces of all fingers of both hands. He denied being involved in the stabbing, but his fingerprints were recovered from a wine bottle and an ash tray in the dining room of the victim's apartment. The defendant entered a guilty plea and was sentenced to prison.

Case 8: The deceased female victim was found lying about 100 yards from her abandoned car. She had received 47 stab wounds and cut wounds. Bloodstains in her car indicated that the stabbing episode had begun in the car. Defects resembling knife blade punctures in the driver shoulder belt and ceiling headliner suggested that the victim was still wearing her seat belt when the knifing began, and that she fought with her attacker over the knife. Transferred bloodstains on the right front door and right front seat suggested that the killer had blood on his hands and had been in the car with the victim. Over a week later, a male was brought in for questioning; he bore an unsutured deep cut wound to the outside edge of the right little finger. Puncture wounds were observed on the back of the left hand. At first he denied any knowledge of the murder. When he was confronted with his fingerprints found on the right A-pillar and questioned about the cuts on his hands, he ceased to answer any questions concerning the murder. Later he came up with a story that he was in the murder car, but he blamed the stabbing on a third person and claimed he cut his hand while trying to take the knife away from the murderer. The jury found him guilty and sentenced him to life in prison.

Case 9: The defendant was convicted of stabbing the victim to death. Examination of the knife blade revealed the presence of a bloody latent print, which was enhanced with Coomassie Blue reagent. Comparison with known prints from the defendant showed the print was made by his right palm. The location of the area and the orientation of the identified ridges showed that the print could have been made when the hand slipped from the handle onto the blade.

DISCUSSION

The above cases provide some degree of documentation to the notion that knife-wielding assailants can and do injure themselves while stabbing or cutting their intended victims. The proposed Mechanisms 1, 2, 4, and 5 are directly supported by the presented case histories. (Differentiation between 1 and 4 could be somewhat speculative.) While injuries to a defendant could be thought to indicate a possible self-defense motive, the proposed mechanisms offer several ways such wounding could take place in the absence of any aggressive behavior by the victim. Further, no evidence of self-defense was presented in any of the studied cases.

It is seen that potentially-valuable evidence can result when such an event occurs. If the evidence is recognized and is properly documented, collected, processed, and interpreted, information about the identity of the assailant and about the chronology of events and the possible scenarios may be available. Three distinct areas of inquiry are worthy of consideration.

First, the knife, if located, may have evidence that will connect it to the assailant. In addition to trace evidence and fingerprints, the blood should be compared with both the victim and the suspect. The serological testing protocol should allow for the possibility that there may be blood present from more than one individual. Photographic documentation of visible bloodstains prior to sample removal is recommended.

Additionally, the suspect should be examined for cut or stab injuries that would be consistent with the weapon utilized. Such injuries should be carefully documented with photographs. It is suggested that medical attention, even if the medical need is marginal, will provide additional documentation by a medical expert who can adequately describe them, can gauge their severity, and may be able to estimate their age.

Finally, the crime scene should be carefully searched for bloodstain patterns that are consistent with a bleeding assailant. Patterns away from the location of the victim, patterns out of the normal traffic patterns, and patterns consistent with cast-off stains are the best possibilities for finding blood from the assailant. Locating stains associated with the perpetrator are good evidence for identification of the suspect and also may provide vital information about the movements and actions of the perpetrator during the events in question. A useful reconstructive analysis of the crime scene will, of course, require thorough documentation of the bloodstains that are present. All bloodstains that might conceivably have any bearing on the interpretation of the events should be collected and submitted for analysis.

REFERENCES

1. Green, M. A., "Stab Wound Dynamics--A Recording Technique for Use in Medico-Legal Investigations," *J. Forens. Sci. Soc.*, Vol. 18, 1978, pp. 161-163.

2. Ormstad, K., Karlsson, T., Enkler, L., and Rajs, J., "Patterns in Sharp Force Fatalities--A Comprehensive Forensic Medical Study, *J. Forens. Sci.*, Vol. 31, No. 2, 1986, pp. 529-542.

3. Adelson, Lester, "The Pathology of Homicide", Springfield: Charles C. Thomas, 1974.

4. "Crimes and Punishment", V. 16, Morley, Jackson, Ed., Symphonette Press, 1974.

5. "The Epic of Man," Canby, Courtlandt, Ed., New York: Time, Inc., 1961.

6. Thorp, R. W., "Bowie Knife", 2nd Ed., Williamstown, NJ: Phillips Publications, 1991.