

# CASE REPORT

*Frederick T. Zugibe,<sup>1</sup> M.D., Ph.D. and James T. Costello<sup>2</sup>*

## The Jigsaw Puzzle Identification of a Hit-and-Run Automobile

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**REFERENCE:** Zugibe, F. T. and Costello, J. T., "The Jigsaw Puzzle Identification of a Hit-and-Run Automobile," *Journal of Forensic Sciences*, JFSCA, Vol. 31, No. 1, Jan. 1986, pp. 329-332.

**ABSTRACT:** A suspected automobile was identified in a hit-and-run death of a 40-year-old male by matching a tiny nonspecific fragment of tissue attached to the gasoline line clip of the undercarriage with an avulsed area on the hypothenar area of the palm of the hand. There was no ostensible damage to the auto and there was an absence of clothing remnants, blood, and other tissues and an absence of paint pigments on the victim or victim's clothing.

**KEYWORDS:** criminalistics, automobiles, homicide

It is often very difficult to establish the identity of a vehicle involved in a hit-and-run death when there is an absence of (1) damage to the auto, (2) blood and tissues from the victim on the auto for typing, (3) remnants of the victim's clothing on the auto, and (4) paint pigment on the victim or victim's clothing. In such instances, it is important to collect and analyze nonspecific fragments found on the auto and submit them to the lab. It is the purpose of this paper to present a case where a suspected automobile was identified as the vehicle of death, although all of the above stated features were absent.

### History of Event

At approximately 10:45 p.m., an operator of an automobile proceeding in a westerly direction observed a blue Plymouth driving erratically in the same direction strike a pedestrian and continue on without stopping. A few minutes later another motorist stopped at the scene and informed the police of an eastbound vehicle that was weaving from lane to lane on the same road. The auto was stopped shortly thereafter and the driver was arrested and the auto impounded. The driver vehemently denied any knowledge of the accident. A Breathalyzer<sup>®</sup> test revealed a value of 0.32%.

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<sup>1</sup>Chief medical examiner, Rockland County, NY and adjunct associate professor of pathology, Columbia University College of Physicians and Surgeons.

<sup>2</sup>Senior medical investigator, Rockland County Medical Examiner's Office, Pomona, NY.

### Auto Examination

The entire exterior of the auto was carefully inspected both on the ground and up on a hydraulic lift for the presence of damage indicative of a recent accident. In addition, a careful examination was conducted to determine if any evidence such as blood, tissue, or clothing from the deceased could be found. A small amount of a dark red substance was scraped from the undercarriage, placed in a tube, and labeled. Two fibers resembling hair were also taken from the undercarriage, placed in a tube, and labeled. A tiny, hardened, rolled up fragment of tissue found on the undercarriage and attached to the gasoline line clip was removed (Fig. 1), placed in a tube, and labeled.

### Results

There was no discernible damage to the automobile, including the undercarriage. The substance resembling blood was negative for blood by the benzidine test. Examination under the phase microscope after dissolution in physiological saline and examination of a Wright-stained smear were both negative for blood elements. One of the fibers was identified as a polyacrylic fiber, and the other as nonhuman hair consistent with dog hair. The tissue fragment removed from the gasoline clip was soaked in physiological saline for several minutes, placed on a filter paper, and gently unrolled. This was irregular in shape, leathery in consistency, measured 1.3 by 0.6 by 0.4 cm and contained a pattern resembling a palm print. This fragment was placed in a covered dish containing a pad saturated in physiological saline and taken to the autopsy room to compare with the hands of the deceased.

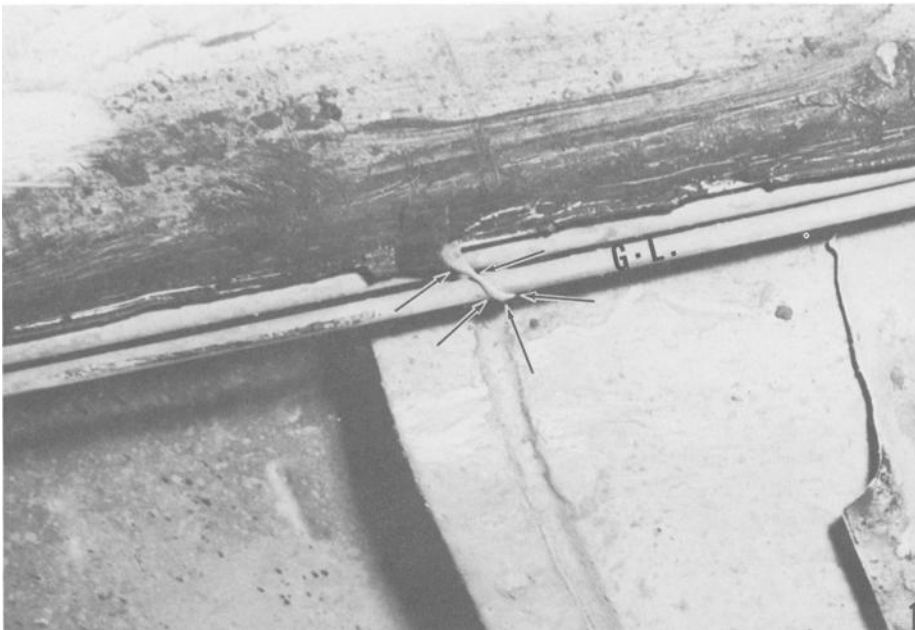


FIG. 1—Tiny, hardened, rolled up fragment of tissue found on the undercarriage and attached to the gasoline line clip.



FIG. 2—*Small irregular avulsion was present on the hypothenar area of the left hand.*



FIG. 3—*Skin fragment removed for the gasoline line fits perfectly into the avulsed hypothenar area.*

### **Autopsy Findings**

The results of the postmortem examination revealed the presence of lacerations of the right face, forehead, ear, and neck; fractures of the bridge of the nose and vertebra C3, C4, and C5; and multiple abrasions of the anterior aspects of the knees and shins. A small irregular avulsion was present on the hypothenar area of the left hand (Fig. 2). The skin fragment removed from the gasoline line on the undercarriage of the car was placed into the avulsed hypothenar area resulting in a perfect fit (Fig. 3).

### **Final Disposition**

The driver was convicted of criminally negligent homicide.

Address requests for reprints or additional information to  
Frederick T. Zugibe, M.D., Ph.D.  
County of Rockland  
Rockland County Health Center—Bldg. A  
Pomona, NY 10970