

Elder homicide by unique combination of different mechanisms of asphyxia

Parthasarathi Pramanik

Department of Legal Medicine, Ministry of National Security, Jamaica

ABSTRACT

Elder homicide is a fatal outcome of elder abuse and neglect. Multifactorial homicidal asphyxia in an elderly man by combination of three different mechanisms is an uncommon incident. This following case demonstrates a very unusual murder of 74-year-old man in his own residence. Crime scene visit and postmortem examination revealed that the victim was killed by combined effect of ligature strangulation, traumatic asphyxia and smothering by plastic bag.

Key words: Elder homicide, ligature strangulation, smothering, traumatic asphyxia

Submission: 17-01-2014 **Accepted:** 18-07-2014

INTRODUCTION

Elder mistreatment refers to a single or repeated omission or commission of act resulting in harm, including death, or threatened harm to the health or welfare of an elderly person (>65 years old).^[1] Elderly people are highly prone to assault due to their weakness or morbidity and loneliness. Eldercide is a subcategory of elder abuse. It is a serious concern due to its growing incidence.^[2] Different studies on elder homicide have reported two main contrasting categories of eldercide: Either by intra familial homicides by family members or committed by the strangers mostly secondary to robbery or burglary.^[2]

This present case reports a homicide of a 74-year-old man by a rare combination of three different mechanisms of asphyxia: Traumatic asphyxia, ligature strangulation and smothering by an unknown stranger secondary to robbery.

Address for correspondence: Dr. Parthasarathi Pramanik,
21/2 Hope Boulevard, Kingston 5, Jamaica.
E-mail: drbubay@rediffmail.com

Access this article online	
Quick Response Code:	Website: www.ijabmr.org
	DOI: 10.4103/2229-516X.149249

CASE REPORT

A 74-year-old man was found dead inside a closet of clothes in his residence. He was living alone in a single storied town house at suburban area. The police received a report from the neighbors about house breaking. When the police reached in that house, no one was inside. The entrance gate lock was broken. The police had to enter through the broken gate. The belongings were scattered over the floor of the bedroom but did not find the old in the house. On the next day, the police discovered the dead body of the old man in a closet while revisiting the scene [Figure 1a]. His mouth and nose were covered by a black plastic bag. The open ends of the bag were tied at the back of the neck. There was profuse bleeding from nostrils. His body was tied by a car seatbelt in semi prone position with flexed knees and elbows. Several knots were present, continued from the front of the neck through wrists, abdomen and ankles [Figure 1b].

At autopsy, postmortem hypostasis was found on the anterior aspect of the body due to semi prone position of the body. Early putrefactive changes like greenish discoloration over abdomen and marbling on the shoulder were found over body. Intense violaceous congestion was present on the face, neck, shoulders and chest. Mouth, lips, tongue were cyanosed, black in color. Horizontally placed three abrasions were present on the right and left side of chest and on the right abdomen of sizes 2.5 cm × 1 cm, 3.5 cm × 1 cm and 3 cm × 1 cm respectively. Multiple abrasions were present over front of both knees sizes

ranging from 1-2.5 cm × 0.5-1.5 cm. Two black colored bruises of sizes 3 cm × 2 cm and 1 cm × 1 cm were present on the left side of the forehead with periorbital hematoma and right side of the face respectively. A ligature mark was present around the front, left and right side of the upper third of neck with knot mark underneath chin. The ligature mark was 13 cm in length transversely. It was 0.5-1 cm in breadth above downwards. The mark extended upward and backward and was faint on the back of the neck [Figure 2]. Three crescentic nail pressure abrasions were found over upper back sizes ranging from 1-2 cm × 1-2 cm.

On dissection, there was subcutaneous hemorrhage underneath the ligature mark in the neck muscle [Figure 3]. Airway and neck glands were congested. Hyoid bone and thyroid cartilage were intact. There were patchy hemorrhagic spots in the chest muscles over sternum and attaching with right and left costal margins [Figure 4]. Both lungs were highly congested with petechial hemorrhagic spots on the pleural and pericardial

surface. The heart was 300 g in weight. Coronaries were calcified but not blocked. No intracranial hemorrhage or cranial fracture was noticed except scalp hematoma on the frontal area. All organs were congested. Histopathological examinations were mostly unremarkable except mild myocardial fibrosis. Toxicological tests were negative.

The cause of death was opined as asphyxia due to ligature strangulation associated with attempted plastic bag smothering and chest compression. However, blunt force head injury was considered as contributory cause but was not documented as fatal injury.

Crime scene visit and autopsy findings of the present case suggest the manner of death is homicide. The victim was incapacitated by inflicting blunt force forehead injury, tying the body by a car seat belt and wrapping a plastic bag around his face. Then he was strangled by the car seat belt tied around his neck, simultaneously his chest was compressed in prone position and mouth and nose were smothered by the plastic



Figure 1: (a) The decedent was found in a closet, (b) Mouth and nose were covered by a black plastic bag. The body was tied by a car seat belt. Postmortem hypostasis was present on the anterior surface on the body



Figure 2: Intense congestion over face, chest and ligature mark on the neck with prominent knot mark on the front of the neck and below chin



Figure 3: Extravassation of blood in the neck underneath the ligature mark

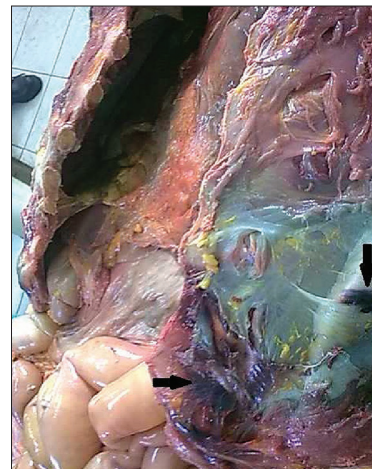


Figure 4: Intramuscular hemorrhage in the chest muscle

bag to death. The police investigation revealed that a stranger intruded into house and killed the elderly victim for the purpose of robbery.

DISCUSSION

In different eldercide studies, homicidal asphyxia is reported to be a relatively less common killing tool in comparison to the firearm or sharp force or blunt force injuries.^[3-5] Significant proportions of these elder homicides are secondary to robbery or burglary. Fox and Levin noted that elderly people are more commonly killed by strangers than younger population.^[6] Similarly, Collins and Presnell observed that perpetrators were stranger to the victim in 29% cases and in 20% cases law enforcement agency failed to identify the offender.^[5] Moreover, the study of Shields *et al.* revealed that the perpetrators were undetermined in most of the homicidal asphyxia cases.^[4] Interestingly, male elders are more susceptible to be killed by strangers where as female victims are more commonly killed by their family members.^[2] The report of gendered examination by Kreinert and Walsh is very much consistent with the description of the victim offender profile of this current male eldercide case.^[2]

This present male eldercide case is very uncommon and interesting due to the presence of unique and rare combination of three different asphyxial mechanisms: Traumatic asphyxia, ligature strangulation and plastic bag smothering simultaneously.

In this current case, intense soft tissue congestion over face, neck and upper body along with thoracic intramuscular hemorrhage are strong evidences of traumatic asphyxia.^[7,8] Sign of frictional contact with the hard rough surface is evident on the anterior aspect of the body in the form of few abrasions over chest and front of the both knees. Posterior part of the body was relatively free from any soft tissue injury except few crescentic pressure abrasions of nails of the assailant. Hence, it is presumed that the chest was compressed against ground by sitting or kneeling over his back. Lethal traumatic asphyxia is commonly found in accidental circumstances like crushed by crowd or vehicle or entrapment within a narrow space etc.^[7] However, homicidal traumatic asphyxia is also reported in a scenario like this present case where the victim is restrained in prone position and his chest is compressed by the assailant in sitting or lying over his body. Such case is akin to restraint asphyxia death in police custody setting.^[9,10]

The present case is characterized by few external abrasions and thoracic intramuscular hemorrhage in the chest and absence of any bony fracture or visceral injury. Presumably, it is the outcome of application of mild to moderate force (partial or complete body weight of the assailant) to compress the

chest of the deceased. Respiratory excursion is reduced in prone position significantly with or without application of pressure on the back. Chest compression and restriction of respiratory excursion in prone position creates pathological condition of traumatic asphyxia.^[10] In the extant literature, fatal traumatic asphyxia cases were often resulted from application of relatively small pressure for prolonged duration.^[11] Thoracic intramuscular hemorrhage could be due to violent rupture of the muscles and small vessels during an attempt of the deceased to expand the chest against the restraint.^[8]

Cervicofacial cyanosis and intense upper body plethora of the deceased could be result of rise of superior venacaval pressure and reversed venous flow by combination of chest compression, "fear response" with the victim and ligature strangulation around the neck. The lower torso was relatively spared due to collapse of inferior venacava by increased intra abdominal pressure generated during "fear response."^[11]

In this present case, ligature strangulation can be confirmed by presence of prominent ligature mark on the front of the neck and subcutaneous hemorrhage underneath it.^[12] This could be caused by strangling victim's neck from behind by the assailant simultaneously while compressing the chest. External neck trauma in the form of ligature mark over skin and underlying subcutaneous or intramuscular hemorrhage is more likely phenomenon in homicidal ligature strangulation cases.^[12]

Assessment and confirmation of plastic bag smothering are very much dependent on circumferential evidences while analyzing death scene. Usually no typical autopsy finding can be appreciated in plastic bag smothering other than the presence of *in situ* plastic bag.^[13] On evaluation of crime scene it is evident that the assailant maintained utmost silence so that the neighbors were unaware of the criminal activity. It can be assumed that the infliction of blunt force trauma over forehead along with plastic bag wrapping around the face and tying of victim's body by seat belt were conscious efforts of the assailant to incapacitate the victim. Thus, the assailant was able to overcome victim's any kind of resistance or to prevent any noise for help. In this process, wrapped plastic bag would result smothering by mechanical obstruction of the airway. In addition, inspiring reduced oxygen concentration from the bag around the victim's face would augment the degree of suffocation.^[13] Homicidal plastic bag smothering cases are less common than suicidal and accidental events. However, homicidal plastic bag asphyxia usually takes place where there is disparity of strength between the assailant and victim like this current case.^[13]

It is difficult to ascertain the exact application timing, duration of three different mechanisms in this homicide. However,

certainly the combined effect of all three mechanisms was executed for sufficient period (more than 4-5 min) to produce severe brain hypoxia leading to death.^[11,14]

Although the previous extant literature shows a case of female elder homicide by three different mechanisms of asphyxia.^[15] But in this present male eldercide case a different combination of three asphyxial mechanisms is reported. Moreover, pathological findings and victim offender profile are also different from that previous case report.

It seems this presented case is the first one to report a male eldercide case by unique combination of three different asphyxial mechanisms: Traumatic asphyxia, ligature strangulation and plastic bag smothering.

REFERENCES

1. Elder abuse and neglect. Council on Scientific Affairs. JAMA 1987;257:966-71.
2. Kreinert JL, Walsh JA. Eldercide: A gendered examination of elderly homicide in the United States, 2000-2005. Homicide Studies 2010;14:52-71.
3. Coelho L, Ribeiro T, Dias R, Santos A, Magalhães T. Elder homicide in the north of Portugal. J Forensic Leg Med 2010;17:383-7.
4. Shields LB, Hunsaker DM, Hunsaker JC 3rd. Abuse and neglect: A ten-year review of mortality and morbidity in our elders in a large metropolitan area. J Forensic Sci 2004;49:122-7.
5. Collins KA, Presnell SE. Elder homicide: A 20-year study. Am J Forensic Med Pathol 2006;27:183-7.
6. Fox JA, Levin J. Homicide against the elderly: A research note. Criminology 1991;29:317-27.
7. Byard RW, Wick R, Simpson E, Gilbert JD. The pathological features and circumstances of death of lethal crush/traumatic asphyxia in adults: A 25-year study. Forensic Sci Int 2006;159:200-5.
8. Spitz WU. Asphyxia. In: Spitz WU, editor. Spitz and Fisher's Medico Legal Investigation of Death: Guidelines for the Application of Pathology to Crime Investigation. Springfield, IL: Charles C. Thomas; 1993. p. 484-5.
9. Miyaishi S, Yoshitome K, Yamamoto Y, Naka T, Ishizu H. Negligent homicide by traumatic asphyxia. Int J Legal Med 2004;118:106-10.
10. Reay DT. Death in custody. Clin Lab Med 1998;18:1-22.
11. Richards CE, Wallis DN. Asphyxiation: A review. Trauma 2005;7:37-45.
12. Maxeiner H, Bockholdt B. Homicidal and suicidal ligature strangulation: A comparison of the post-mortem findings. Forensic Sci Int 2003;137:60-6.
13. Byard RW, Simpson E, Gilbert JD. Temporal trends over the past two decades in asphyxial deaths in South Australia involving plastic bags or wrapping. J Clin Forensic Med 2006;13:9-14.
14. Saukko P, Knight B. Knight's Forensic Pathology. 3rd ed. 1996. p. 369.
15. Lupascu C, Lupascu C, Beldiman D. Mechanical asphyxia by three different mechanisms. Leg Med (Tokyo) 2003;5:110-1.

How to cite this article: Pramanik P. Elder homicide by unique combination of different mechanisms of asphyxia. Int J App Basic Med Res 2015;5:61-4.

Source of Support: Nill. **Conflict of Interest:** None declared.