

ORIGINAL ARTICLE

An Autopsy Based Study on Patterns of Injury in Homicidal Deaths in Imphal

Das NG,¹ Singh TB.²

Tutor,¹ Professor.²

1. Department of Forensic Medicine & Toxicology, Agartala Government Medical College & GBP Hospital.

2. Department of Forensic Medicine, Regional Institute of Medical Sciences, Imphal.

Abstract:

The pattern of homicide may be a useful indicator of the social stresses in a community and may also provide useful information for law-enforcement strategies and thus pattern of injury in such cases could possibly give a better understanding the manner of death. This is a prospective descriptive analysis of medico-legal autopsies performed in the mortuary of Regional Institute of Medical Sciences, Imphal from October 2013 to August 2015. In this study a total of 97 cases of homicide during the study period is analysed in various medico-legal aspects. Blunt weapon, firearm and bomb blast were commonest weapon employed. Multiple injuries and head injuries were commonest cause of death. This study is taken up to analyze the pattern of injuries in all homicidal deaths and to formulate measures for improvement of scenario etc.

Keywords: Homicide; Blunt trauma; Sharp force; Firearm; Injury; Bomb blast; Weapon.

Introduction:

Offences against human being can vary from non-culpable to culpable homicide. Homicide is killing of a human being by another human being.¹ There is no difference in the eyes of law, whether a wound by its nature becomes instantly fatal or whether the fatality occurred because of not taking any proper treatment.²

The pattern of injuries is changing because of population explosion, changing life style, drug & substance abusers and easy availability of various types of weapons. With the advancement of technologies human race is able to access to information regarding all sophisticated instruments and weapons that can be readily used for committing any offence and intoxication is an added menace to the existing problem.

Type of weapon chosen by perpetrator depends upon many factors and injuries caused by different weapon also vary. In view of this alarming situation, we undertook the present study so as to find out the types of injury, types of assault weapon and any particular pattern of injuries in all case of homicide during the period of study and to formulate measures to change the scenario.

Materials and Methods:

A prospective study on patterns of injury in homicidal deaths was conducted at the mortuary of the department of Forensic Medicine, Regional Institute of Medical Sciences (RIMS), Imphal Manipur during period from October 2013 to August 2015. All the cases brought to the department for medicolegal autopsy with alleged history of homicide and also the cases which

were later registered as homicide during and after the autopsy, were included in the study. Data collected using structured proforma and information was collected from the police, victims' relatives and friends, and from the hospital records in cases of hospitalization.

Results:

A total of 520 medico-legal autopsies have been conducted in the mortuary of Forensic Medicine Department, Regional Institute of Medical Sciences, Imphal during the period from October 2013 to August 2015. Altogether 97 (18.65%) cases were of homicidal deaths during the study period and these cases were studied in details and comprehensively and thus the following results were observed.

Incidence of homicide: It is observed that for the last 10 years, there was a gradual declining trend of homicide after 2009. There was 388 (65.65%) homicide in the year of 2009 and then number came down to 49 (18.08%) in the year of 2014 as per Figure no 1.

In the present study, most commonly used weapon was blunt weapon comprising of 29.90%, followed by firearms or gunshots 23 (23.71%), bomb or explosives 17 (17.53%), sharp weapons 12 (12.37%), ligature material 6 (6.18%), hands for throttling 6 (6.18%). Least commonly employed weapons were combined gunshot & explosives in 2 (2.06%), fluid media for drowning in 1 (1.03%), combined blunt & sharp weapon in 1 (1.03%) case as per table no 1.

Method of Homicide: As per the table no 2 data, blunt force trauma was the commonest method of homicide which comprised of 30 (30.93%) cases, followed by gunshots in 23 (23.71%), bomb blasts in 19 (19.58%), violent asphyxia deaths in 13 (13.40%), and sharp force trauma in 11(11.34%) cases. Only one death caused by combined blunt and sharp force injuries i.e. multiple methods.

Body parts affected: In the present study, almost every victim

Corresponding Author

Dr. Nani Gopal Das

Email : ngdas153@gmail.com

Mobile No. : +91-9485066704

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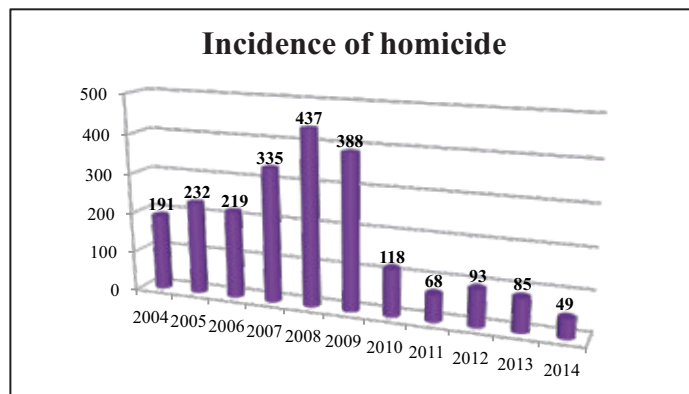


Figure 1. Bar chart showing year wise incidence.

sustained different types of injury in different parts of the body. Most of the victims suffered injury in multiple areas of the body which comprises 23 (23.71%), followed by head injury only in 16 (16.50%) cases, thoraco-abdominal injuries in 10 (10.30%), neck injury only in 10 (10.30%), head & neck 10 (10.30%), abdomen only in 7 (7.21%), head & thorax in 7 (7.21%), head & abdomen in 6 (6.18%), thorax only in 6 (6.18%) cases and least common sites were limbs in 1 (1.03%) and neck & abdomen in 1 (1.03%) cases as per table no 3.

Table 1. Types of weapons used.

Type of weapon	No of cases	Percentage
Blunt Weapon	29	29.896907
Firearm	23	23.71134
Bomb	17	17.525773
Sharp weapons	12	12.371134
Ligature material	6	06.185567
Hands (manual)	6	06.185567
Firearm + Bomb blast	2	02.061856
Fluid media	1	1.03092784
Sharp & Blunt weapon	1	1.03092784
Total	97	100

Table 2. Method of homicide.

Method of Homicide	No of cases	Percentage
Blunt force trauma	30	30.9278351
Gunshots	23	23.71134
Bomb blasts	19	19.5876289
Violent asphyxia	13	13.4020619
Sharp force trauma	11	11.3402062
Multiple methods	01	1.03092784
Total	97	100%

Table 3. Body parts affected.

Body part affected	No of cases	Percentage
Multiple body parts	23	23.71134
Head only	16	16.494845
Thoracoabdominal	10	10.309278
Neck only	10	10.309278
Head & neck	10	10.309278
Head & thorax	7	07.216495
Abdomen only	7	07.216495
Head & abdomen	6	06.185567
Thorax only	6	06.185567
Limbs only	1	1.03092784
Neck & abdomen	1	1.03092784
Total	97	100

Pattern of skull and spine fractures: In the present study, it was observed that most common type of skull fracture was depressed comminuted fracture among total 30 deaths with skull fractures, which comprised of 14 (45.16%) and next comes in order of frequency is fissure or linear fracture in 8 (25.81%) cases, followed by cut fracture 3 (9.68%). Perforating fracture, gutter fracture, ring fracture 1 (3.22%) and non-specific in 3 (9.68%) cases each as per table no 4.

Type of Intracranial haemorrhage: As shown in the table no 5, altogether 43 victims sustained head injury i.e. 44.32% of total homicidal deaths and most of them developed both subdural (SDH) and subarachnoid haemorrhage (SAH) comprising of 23 (53.48%) cases, followed by combined extradural haemorrhage, subdural haemorrhage and subarachnoid haemorrhage in 9 (20.93%), subarachnoid haemorrhage only in 7 (16.27%), diffuse subdural haemorrhage in 3 (6.98%) cases. Combined subarachnoid haemorrhage and intraventricular haemorrhage (IVH) comprises only 1 (2.32%) case.

Defense wounds: As displayed the data on defense wounds in the table no 6, there was absence of any defense wounds in any part of the body in 66 (68.04%) cases, whereas in 31 (31.96%) cases recognizable defense wounds were present in different parts of the body.

Causes of death: Various cause of death following homicidal attacks are given in the table no 18, the commonest cause of death

Table 4. Pattern of skull and spine fractures.

Types of skull and spine fracture	No of cases	Percentage(%)
Depressed comminuted	14	45.16129032
Fissured fracture	8	25.80645161
Cut fracture	3	09.67741935
Perforating fracture	1	03.22580645
Gutter fracture	1	03.22580645
Ring fracture	1	03.22580645
Non specific	3	09.67741935
Total	31	100

Table 5. Types of intracranial haemorrhage.

Types of ICH	No of cases	Percentage
SDH & SAH	23	53.488372
EDH, SAH, & SDH	9	20.930233
SAH	7	16.27907
Diffuse SDH	3	06.976744
SAH & IVH	1	02.325581
Total	43	100

Table 6. Defense wounds.

Defense wound	No of cases	Percentage
Present	31	31.958763
Absent	66	68.041237
Total	97	100

Table 7. Causes of death.

Cause of death	No of cases	Percentage
Shock & haemorrhage	35	36.0824742
Intracranial hemorrhage	14	14.4329897
Head injury	13	13.4020619
Injury to the vital organs	13	13.4020619
Asphyxia	11	11.3402062
Contusion of the brain and ICH	6	06.185567
Combined asphyxia & head injury	5	05.154639
Total	97	100%

observed was shock and haemorrhage in 35 (36.08%) cases, followed by intracranial haemorrhage in 14 (14.43%) cases and head injury comprised of 13 (13.40%) cases. Deaths due injury to the vital organs were seen in 13 (13.40%) cases. Asphyxia contributed in 11 (11.34%) cases. Intracranial haemorrhage in combination with contusion of the brain contributed in 6 (6.18%) cases and head injury combined with asphyxia comprised of 59 (5.15%) cases as per table no 7.

Discussion:

In this study 97 cases of homicide victims were analysed during the study period in relation to the injuries sustained and ultimately leading to death.

In the present study, most commonly used weapon was blunt weapon comprising of 29.90%, followed by firearms or gunshots, bomb or explosives, sharp weapons, ligature material, hands for throttling. These findings are consistent with Slater S and Subramanyam S.² Blunt force trauma was the commonest method of homicide which comprised of 30 (30.93%) cases, followed by gunshots, bomb blasts, violent asphyxia death, and sharp force trauma cases. These findings are in accordance with Sharma D et al.³ and Hugar BS et al.⁶ The proportion of bomb blast and firearm injury cases are more as compared other places where similar studies performed which could be due to disturbed condition of international border areas.

In the present study, almost every victim sustained different types of injury in different parts of the body. Most of the victims suffered injury in multiple areas of the body which comprises 23 (23.71%), followed by head injury only, thoraco-abdominal injuries, neck injury only, head & neck, abdomen only, head & thorax, head & abdomen. These findings are consistent with other authors Patel DJ⁷ and Mada P et al.⁸

In the present study, it was observed that most common type of skull fracture was depressed comminuted fracture among total 30 deaths with skull fractures, which comprised of 14 (45.16%) and next comes in order of frequency is fissure or linear fracture cases, followed by cut fracture, perforating fracture, gutter fracture, and ring fracture. These observations are in accordance with findings of Karthik SK⁹ and Sashikanth Z.¹⁰

Altogether 43 victims sustained head injury i.e. 44.32% of total homicidal deaths and most of them developed both subdural (SDH) and subarachnoid haemorrhage (SAH), followed by combined extradural haemorrhage, subdural haemorrhage and subarachnoid haemorrhage, subarachnoid haemorrhage, diffuse subdural haemorrhage. Similar findings were observed by Mohanty S et al.⁴

There was absence of any defense wounds in any part of the body in 68.04% cases, Similar observations were seen in works of Hugar BS et al.⁶ and Mada P et al.⁸

The commonest cause of death observed was shock and haemorrhage in 35 (36.08%) cases, followed by intracranial

haemorrhage and head injury cases, deaths due injury to the vital organs, asphyxia, etc. These findings are consistent with Sashikanth Z.¹⁰

Conclusion:

On analyzing the homicidal deaths occurred in this region of the northeastern state, it was found that though multiple anatomical regions were involved in most of the cases, the anatomical region head was most targeted region in majority of the victims. It was also observed that the type of injuries and choice of weapon also varied in accordance with the gender and age of the victims.

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Ethical clearance: Ethical clearance was taken from institutional ethics committee before starting the study.

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