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PATTERNS OF INJURY BY SHARP WEAPONS RESULTING IN FATAL HOMICIDAL DEATHS –A MEDICO LEGAL AUTOPY IN TERTIARY GOVERNMENT HOSPITALS

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ABSTRACT

The distinction between homicidal, suicidal and accidental wounding is a central issue in forensic pathology [1]. Besides hanging and self-shooting, self-inflicted sharp force injuries area well-recognized method of suicide; the throat/neck region is a site which – thus easily accessible –might rarely be involved in such fatalities [5, 11]. In some of the cases, differentiation of injury patterns with regard to the manner of death can be difficult, also being related to unusual crime scenescenarios, not typical for suicide [13]. In this paper discussed various patterns of injuries by sharp weapons resulting in fatal homicidal deaths recorded in Government tertiary care hospitals of Bangalore city . After a first sceptic approach of forensic pathologists and police investigators regarding the pattern of injuries and crime scene features, all cases were deemed as homicidal deaths.

KEYWORDS: Weapons, Homicidal Deaths, Injuries, Forensic

INTRODUCTION

Inflicting injury has been prevalent among humans ever since stone age, as the use of metal existed primarily for use in Agriculture ,hunting and as a defense agent ,to protect ,themselves ,inflicting ,injuries also became a nefarious activity. During the reign of Hammurabi, when justice in its unsophisticated form was in vogue, the slogan was “eye for an eye” leg for a leg, head for a head” when justice could not be administered by the concerned authorities, men probably decided to take the law in to their own hand in sheer rage and committed what is called homicide in legal parlance. Historically, in the 13th century murder had acquired the connection of willful and unjustified homicide. Homicide also includes inflicting serious injury and with disregard for human life. In the past, crime committed by men for material gains was less sophisticated than in the modern times. The detection of crime has been redefined now a days. Sophisticated methods of inflicting injuries with intension to kill must have been existence since man started life on planet earth. When Julius ceaser was murdered his body was exposed in the forest and the physician antistius examined the corpse and found that only one of his 23 wounds was mortal. It had penetrated the chest entering between the first and second ribs. Man commits murder it could be for any of the following reasons, money ,property ,disputes for objects of material comforts , women and espiolage etc.,

As for the sharp weapons used for inflicting homicidal injuries lives were chosen at random depending upon occupation and easy availability. Primitive man probably used sharp wooden splinters or pointed end and sharpened stones. Their methods were crude because they were not advanced enough to conceal their crime, they nearly gave vent to strong feelings of hatred and revenge. Gradually man restored to using spears, knives, swords, scissors, knuckle dusters and other lethal weapons such as harpoons, daggers, arrows, knitting needless. The parts of the body most vulnerable to injury were carefully chosen; the neck, thorax and abdomen. The face and head were harder to attack being smaller targets and less

easily accessible. The chest and abdomen contain vital organs such as the heart, lungs, liver, spleen and genitals which are relatively less protected than the brain, trachea and major blood vessels of the neck. The neck being a smaller structure pose a difficult target although the above mentioned structures otherwise easily accessible and less protected. The present study aims to define the patterns of Patterns of injury by sharp weapons resulting in fatal homicidal deaths.

METHODS

The cross sectional study conducted at Department of Forensic science during 1999-2000 .All homicidal deaths was considered for the study. The pattern for injuries and causation of death was recorded on prospective basis. For each homicidal death various type of injuries were done by the expert opinion. Collected data were analysed by using SPSS-16.50 version. Univariate descriptive statistics were employed to draw the significant inference .Recorded information were maintained as per the government norms and maintained in safe locker with high confidentiality.

Table 1: Age Distribution of Homicidal Deaths Resulting from Sharp Weapons

Age Group	Number of Homicidal Death Caused by Sharp Weapons			Percentage
	Male	Female	Total	
0-10	1	0	1	1.36%
11-20	6	0	6	8.2%
21-30	33	7	40	54.7%
31-40	10	2	12	16.4%
41-50	3	3	6	8.2%
51-60	5	0	5	6.84%
61 andabove	3	0	3	4.1%
Total	**61**	**12**	**73**	

Table 2: Gender Distribution of Fatal Homicidal Deaths Resulting from Sharps Weapons

Sex	Total Number of Homicidal Deaths Causes by Sharp Weapons in the Year 1999-2000	Percentage
Male	61	83.56%
Female	12	16.43%
	Male : Female Ration of 5:1	

Table 3: Relationship of Assailant

Relationship of Assailant	Total Number of Homicidal Deaths Causes by Sharp Weapons in the Year 1999-2000	Percentage
Blood Relatives	0	0%
Distant Relatives	3	4.1%
Acquaintant	40	54.8%
Spouse	3	4.1%
Not known	27	36.98%

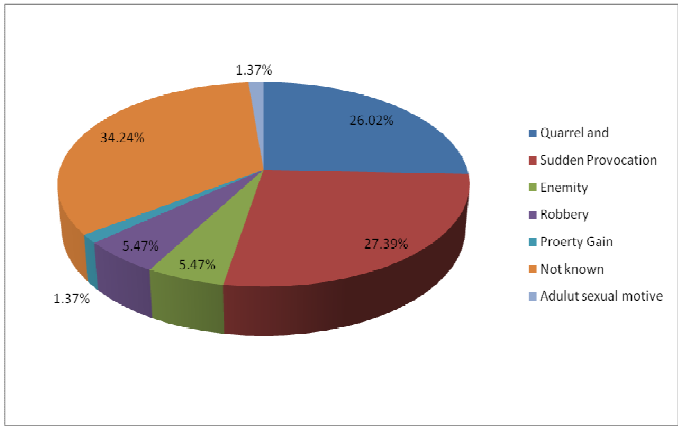

Figure 1: Motive of the Cases Studied

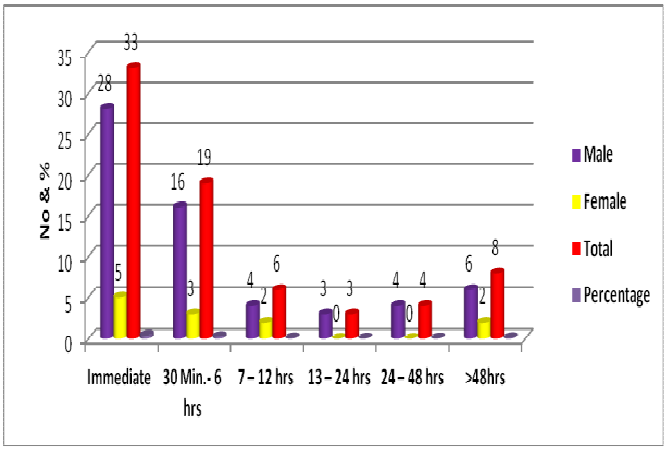

Figure 2: Survival Period of Cases Studied

Table 5: Isolated Region Wise Distribution of Cases Caused by Sharp

	Head, Face, Neck	Chest	Abdomen	Genetalia	Exteremities Only
ISOLATED	21	14	8	1	14
COMBINED	Head, Face, Neck with Chest	Head, Face, Neck with Abdomen	Chest & Abdomen		Exteremities only
	13	3	6		20 Cases had Defence injuries

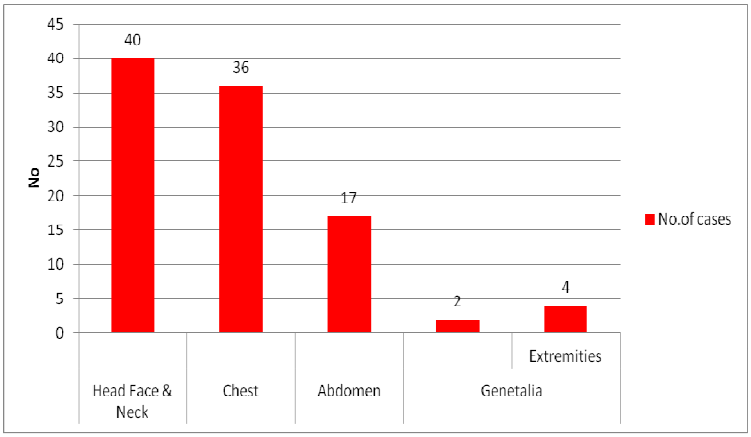

Figure 4: Total No of Cases Showing Region Wise Distribution Irrespective of Extremities Involved

Table 6: Isolated Region Wise Distribution Caused by Sharp Weapons

Pattern of Injuries	Head Face & Neck	Chest	Abdomen	Genitalia	Extremities	Total
Chop Wound Percentage	93 71.5%	2 1.5%	0 ---	0 ---	35 26.92%	130
Stab Wound Percentage	12 8.57%	59 42.1%	46 32.8%	0 ---	23 16.42%	140 ---
Incised Wound Percentage	68 30.22%	36 16%	17 7.55%	2 0.88%	102 45.33%	225 ---
Total	173	97	63	2	160	495
Total Percentage	34.99%	19.59%	12.72%	0.40%	32.32%	

Table 7: Total No of Cases Showing Region on Injuries Pattern

	Type of Wound	Male	Female	Total
ISOLATED	Incised	12	3	15
	Chopped	2	2	4
	Stab	15	2	17
COMBINED	Incised & Chopped	5	2	7
	Incised & Stabed	17	2	19
	Incised, Choped & Stabled	10	1	11
	Total	**61**	**12**	**73**

Table 8: Region & Sex Wise Distribution of Patterns of Injuries Caused by Sharp

Injuries	Head	Face	Neck	Chest	Abdomen	Genitalia	Upper Limb	Lower Limb	Total
Male									
Chop	40	30	13	1	0	0	31	4	119
Stab	0	5	2	46	34	0	13	8	108
Incised	12	17	16	34	13	2	85	17	196
Total									**423**
Female									
Chop	6	0	4	1	0	0	0	0	11
Stab	0	3	2	13	12	0	2	0	32
Incised	5	8	10	2	4	0	0	0	29
Total									**72**
Total Cases									
Chop	46	30	17	2	0	0	31	4	130
Stab	0	8	4	59	46	0	15	8	140
Incised	17	25	26	36	17	2	85	17	225
Total	63	63	47	97	63	2	131	29	495

Table 9: Cause of Death

Cause	Year 1999	Year 2000	TOTAL	Percentage
Shock and Hemorrhage	25	23	48	65.7%
Coma	8	7	15	20.5%
Other	4	6	10	13.69%
Total	**37**	**36**	**73**	

Table 1, Showed the analysis conducted during the year 1999- 2000 of which 73 cases were reported during this year. The incidence of homicidal deaths caused by sharp weapon injuries in the city of Bangalore is rather high. The percentage obtained was that of an incidence of Homicidal deaths caused by sharp weapon injuries in the department of Forensic Medicine Bangalore Medical College, Bangalore was 0.98% & 1.14% for 1999 & 2000 respectively. Of the total homicidal deaths reported at the department of Forensic Medicine Bangalore College, shows Incidence of 2.34% & 2.51% of the year 1999 & 2000 respectively.

Similar results have been obtained by Dr. C. Chanderashekaraiah of 1.91% & 2.0% of year 1987 – 1988 respectively (Total Homicidal Deaths)

AGE DISTRIBUTION

Table 2 shows a Higher percentage of homicidal deaths was seen in 21-30 years and 31-39 years of age group. The maximum persons in the youth full age were the victims. This could be due to their more involvement in day to day quarrels, Jealousy unemployment, public interference, adultary etc., or may who be due to the hot blood or stage of youngness who are easily provoked or provokes others and who are more arrogant at their age. During adolescent period, they have a moral fear in the mind, which prevents them from involving in crime or act which leads to murder. After 40 years, people have more of family responsibility, job, business to look in. This group is also not much involved.

Results 21-30 age group show 54.7% & 31-40 age group 16.4% involved as compared to Moar JJ A study of homicidal penetrating incised wounds of thorax were male, predominant age group were 21 – 30 years (71.2%) as compared to Dr. G. K. Sharma & Kari Omstad et al predominant age between 20 - 40 Years. Similar results have been obtained from Dr. B.G. Shalwadi & Dr. C. Chandrashekariah, (20-29) 64%. Similar results have been obtained from Avis SP and Vivian Levy et al Study, Minlo et al Study and Dr. Rouse's Study shows more predominance of male in their 3rd Decade.

RESULTS

61 cases of male & 12 cases of female were studied, accounting 83.56% & 16.43% with a ratio of 5:1. A Similar result has been obtained from Moar J. J., Dr. G. K. Sharma, Kari Omstad which showed predominant male result. A Similar results has been obtained from Dr. B. G Shalwadi 68.22% & 71.30%, and also with Dr. C. Chanderashekaraiah's Study. However, the later two studies done by B.G. Shalwadi & Dr. C. Chanderashekaraiah include cases of homicide deaths caused by sharp weapon. Similar results have been seen as compared to Dr. Rouse study of which 120 cases (76%) were male & 36 cases (24%) were female. Similar results have also been obtained by Muguti et al & Minlo et al study.

Relationship of the Assailant

Table 4 showed that acquaintants and unknown persons accounted to 54.8% and 37% of the cases respectively. Blood relatives and spouse were the latest of 4.1% each. Similar results were obtained by Dr. C. Chanderashekaraiah regarding, unknown persons 47.8% and 42.60% for Acquaintants. Dr. B.G. Shalwadi reported, Acquaintants to friend amounted to 32.7% of cases, unknown or not known in 30.37% 11.68% for others like police firing etc. The increase in percentage of acquaintants to unknown is because of homicide deaths by sharp weapons are done almost by known persons having previous enmity or may be planned murder by a known.

Motive

Table 5 showed unknown 25 cases – (34.24%) sudden provocation accounted 19 cases (26.02%), 4 cases – (5.47%) enimity, 20 cases (27.39%), were the most followed by Robbery and Adultery of (5.47%) and (1.37%) respectively. The difference may be the psychological aspects of each individual, the misunderstanding of associates or business investment, cheating dishonest accounts for the differences.

Survival Time

Table 6 showed that, the number of cases reported for death due to sharp weapon injuries. Died on spot or after some time of the incident, they were grouped as within 30 minutes for this study. Death within 30minutes showed the height numbers of 33 cases (45.2%) though who survived for 6 hour show 19 cases (26%), 7 to 12 hours 6 cases (8.2%), 13-24 hours shows 3 cases (4.1%). There is a short increase of survival time 24 to 48 hours shows 4 cases (5.4%) and survival more than 48 hours 8 cases (10.9%) similar results have been study of Dr. B.C. Chanderashekaraiah, & Vivian Levy et al studies. Table 7A & 7B showed that each pattern of injuries caused by sharp weapon over all the parts of body Pattern of Injury

Total No. of Wounds

Insised wounds:	225
Chopped	130
Stabbed wounds	140
Total No. of injuries	495

Among stab injuries studied Table 7A, B, 8A, B, 9, shows 35 cases of stab injuries in 140 injuries studied showing more involvement to chest of 59 injuries (42%), and 46 injuries over abdomen (32.8%). Least was seen over face & neck 12 cases (8.57%) this aims that penetrating injuries caused by share weapon were mainly focused on chest & abdomen as it easily yields to penetration and damage internal organs. Similar results have been observed by Dr. C. Chanderashekaraiah shows (36.52%) fatal cases had stab injuries over chest & abdomen predominant area was chest and 20% over abdomen a total of (56.52%) cases confined to chest and abdomen. Similar result as been obtained by Dr. G. K. Sharma regarding the site of stab injuries.

Chop Injuries

Table 7A, B, 8A, B, 9, 22 cases showed 130 chop injuries. Most of the injuries were inflicted over head (35%) over face (23%) and over neck (13%) over all of 71% of injuries were confined to head, face & neck, (23%) shows extremities. This pattern of chop injuries aims that main focus was toward head, face, neck 10 cases in present study showed fractures over skull, facial bones & cervical vertebra and 3 cases show fractures over extremities similar result have been obtained as extremities.

Incised Wound

Table 7A, B, 8A, B, 9, 59 cases showed 225 incised wound caused by sharp weapon irrespective of other injuries. Most of the injuries inflicted over extremities 102 injuries (45.33%) involvement in upper limbs accounted for the highest percentage of 37.77% (85 injuries) this includes 20 cases of defence injuries. Head & Face 18.6% and Neck 11.5% were

observed. Incised wound over neck were mainly cut throat injuries.

Number of Wounds

Table 10 showed the number of wounds inflicted over the body, multiple wounds more than 10 injuries were the highest in number of 22 cases (30%) followed by 15 cases (20%), 5 to 9 wounds 14 cases (19.1%). In this study single injuries sustained were almost cases of stab injuries to the chest or cut throat injury victims. Rest of the others was inflicted by multiple injuries. However, these studies are homicidal deaths irrespective of sharp weapon injuries.

Weapon

Table 11 showed that, the sharp weapons has light cutting or penetrating weapons like knife, razor, blades, sickle, glass piece and had accounted for 50.68% of total weapons used. 26.9% of the cases showed use of multiple weapons, least of these 5.4% were Isolated heavy cutting weapons was used. An important aspect of the examination of injuries caused by sharp weapons is to determine the type of the weapon used, weather single edged sharp cutting or double edged sharp cutting, Heavy cutting weapons or light cutting weapons present shows more number of cases. In 37 cases (50.68%) showing the use of single edged weapon were doubtful or unknown 13 cases (17.8%).

DISCUSSIONS

The analysis shows the incidence of homicidal deaths caused by sharp weapons to the number of autopsies in the Victoria Hospital mortuary, during 1999 to 2000 the injuries in number of homicides as shown in the table 1A. Event of death has due to increased socioeconomical, cultural factors. The seriousness of the social problem to homicide hardly needs to be emphasised. (Uniform crime reports of US 1975). In USA for every 20 minutes 1 murder is committed. In India approximately one third of homicides are not due to negligence (Indian Police Journal 1972) Homicidal deaths rates vary widely in the areas of different culture as also pattern of the murder. Age appears to be an supportive factor directly or indirectly on frequency of murder committed. Physical and physiological conditions need not be of importance in committing murder. Murders are closely associated with sex status, the male sex has greater access to murders However, and American females are committing more murders than females of other Countries (Uniform Crime Report of US 1975) .Most of the murders are generally pre-determined. And these murders are generally committed under the influence of alcohol, great emotions anger. The planned murders committed could be due to enimity, jealously, property gain or long standing disparities. They are also of products of quarrel, nuscience, and drunkenness. Increased Socio economic problems like unemployment, Alcohol and Psychological illness like depression, greediness, and dictatorship of elderly persons in a family, provokes younger the numbers of the family, and migration from neighbouring states play important role in homicidal cases (Ross 1974). The present study showed, an increase in the percentage of deaths due to sharp weapon injuries. The increase may be due to socioeconomics problems and relaxed Law & Order position of the government and police department and by anti-social elements, alcohol examination of the assaliants were not made at our end, and the victims stomach did not show any sign of irritation and smell of alcohol was not done in the present study and in a few cases the chemical analysis report showed insignificant Percentages

CONCLUSIONS

The distinction between homicidal, suicidal and accidental injuries is not an easy task for forensic pathologists who need to evaluate neck injuries case by case. Thus, finding scene investigation, the deceased's medical history as well

as all autopsy and toxicological findings must be considered with skeptical approach before being able to establish the manner of death.

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