ORIGINAL RESEARCH PAPER

Medical Science

EVALUATION OF HEAD INJURIES WITH SKULL FRACTURES IN HOMICIDAL DEATHS

KEY WORDS: homicide, head injuries, strangulation, skull fractures, drones

Dr Sunil Naik G Assistant professor department of physiology, Sri padmavathi medical college and hospital Svims Tirupati Andhra Pradesh India

Dr. Rupesh kumar naik* Department of forensic medicine Sri Padmavathi Medical College For Women SVIMS, Tirupati, Andhra Pradesh *Corresponding Author

ABSTRACT

The present prospective study aims to establish the incidence and patterns of head injuries with skull fractures in homicidal deaths which were subjected to post-mortem examination in the mortuary of a tertiary teaching hospital for a period of two years. The study revealed that among the 10040 autopsies conducted in the study period, homicidal deaths accounted to 120 (1.2%) cases. The various patterns and fracture types along with some demographic patterns were discussed.

INTRODUCTION:

The head is the vital and most vulnerable part of body to sustain injuries. Global raise of homicides is devastating now a days. It is said that around 500,000 deaths per year worldwide were due to homicide. [1,2] It may be a result of arguments between acquaintances, domestic violence, drug addiction, robberies & terrorism. [3, 4] Violence deaths are from a spectrum of physical, sexual, reproductive and mental health problems.[5,6] Murder which incorporates two elements, "Mens rea" - or preplanning or a forethought/ intention, and "Actus reus" - or the actual execution, should work hand in glove to claim it as offence. [7] Further, the newer generation is also influenced to crime by watching of youtube, crime stories which are pushing their brains to orchestrate it and giving an idea what to leave and not in the crime scene spots. Some factors which make the person to commit homicide were given by some authours [9-1]

Head injuries where the presence or absence of a skull fracture, its type and site along with the type of intracranial haemorrhages which are having immnent significance in the final outcome. [14] The thickness of the cranium varies where it shows thinner part in temporal bones and also the thickness is greater along the sutures.[15,16] Various factors and its method of application signify the severity of trauma for its final damage and here is our study to envisage this.

MATERIALS AND METHODOLOGY

The present prospective study was done to know the incidence and patterns of head injuries with skull fractures in homicidal deaths which were autopsied in the mortuary of a tertiary care teaching hospital, for a period of two years. A total of 10040 autopsies were performed during the study period, of which, homicidal deaths accounted for 120 (1.2%) cases and homicidal head injuries with 150 (1.35%) skull fractures cases. After receiving the inquest report given by the investigating officer, the history of the case is obtained from the police personnel. The hospital records regarding the case are gone through. History of the case from the relatives also recorded. Then positive identification of the body is done with respect to the name, age and identification marks present in the documents of the investigating officer and by the relatives. Detailed external examination is carried out with special reference to the wounds regarding its type, dimension, direction and site of the wound.

The data will be compiled with a focus on the analysis of injuries in the head region with special reference to age, sex, socio-economic status, type of weapon used, type of skull fracture, association with other cause, time of death and location at which homicide had occurred. All this information was collected on proformas, analyzed, and statistics were prepared under discussed objectives

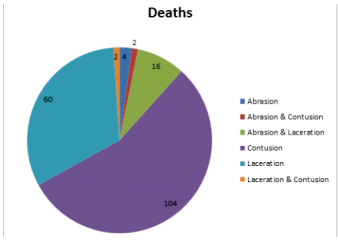
OBSERVATIONS AND RESULTS:

The study revealed that among 10040 autopsies conducted , head injuries constituted 130 (1.3%) cases. The most common manner of death causing head injuries i.e. n=2282 cases (95.4%), was accidental followed by homicide with 105 cases (4.4%), suicides 5 (0.2%). Amongst homicidal deaths, n=211 cases (2.1%) of autopsies, head injury alone was with n=130 cases (1.3%), followed by strangulation (16.5%), stab injury (6.18%), cut throat (1.03%), smothering (5.2%), combination of head injury and strangulation (16.5%), combination of strangulation and burns (4.12%) and burns (4.12%).The main study population i.e. homicidal head injuries with skull fractures accounted for 1.5% (n=150 cases) and n= 120 (1.2%) of total head injuries and n=130 cases of total homicides, 92.4% of 249 total homicidal head injuries. The highest number of cases were recorded in the 21-30 years age group i.e. 36 cases (37.1%), followed by 31-40 years age group n=24 cases (24.74%) and no cases were seen in age group below 1 year. Majority of the homicidal deaths being males with 80 cases (82.5%) and female deaths were 17 in number (17.5%). And 1.14% showed only skull fractures and no other associations. It was observed that 112 cases (1.12%) were associated with other injuries i.e. strangulation, 16 cases (16.5%), Stab (6.18%), multiple chop injury(4.12%), other fractures (2.06%) which were followed by burns (4.12%), Blunt injury abdomen(1.03%), cut throat (1.03%) & gagging (1.03%).

Deaths of unmarried persons n= 65 cases (67%), while statu quo 16 cases unknown (16.5%). In 76 cases (78.35%), the identification of victims was positive in the remaining 21 (21.7%) could not be verified.

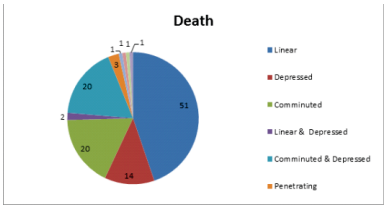
Majority of the fatalities were caused by blunt weapon, 88 cases (85.6%), followed 3 cases (6.3%) by sharp weapon. 2 deaths were caused by both types, 2 heavy sharp weapon, only two with firearm injury (2.1%) . Skull fractures were associated mostly with scalp contusions in 104 cases (1.04%) followed by laceration in 60 cases (61.86%). Abrasions were noted in 4 cases (4.12%) and remaining cases presented in combinations.

(figure 1)



In the present study population, 10040 cases (99.05%) presented with only vault of the skull fracture, followed by 114 cases (1.14%) with combination of Vault & base and only 1 case presented with base of the skull fracture. Majority, 51 (52.6%), showed linear or fissure fracture, followed by comminuted, 20 cases (20.6%; 10 cases (10.3%) showed both comminuted and depressed; followed by others.

(figure 2)



Further, 16 cases (16.5%) presented with frontal bone fracture only, which was the maximum, followed by temporal bone fracture, with 15 cases (15.5%), combination of temporal & parietal bone fracture with 10 cases (10.3%), combination of frontal & parietal with 9 cases, occipital bone fracture with 8 cases (8.3%), combination of frontal, temporal, parietal, occipital & base of the skull with 7 cases (7.2%), parietal bone with 5 cases, and other combinations. Maximum number (55.7%) of cases were found with combination of subdural haemorrhage (SDH) & subarachnoid haemorrhages (SAH), while extradural haemorrhage (EDH) was found in minimum. (1%)

DISCUSSION:

Homicidal deaths are a challenging task to investigating authorities as well as to judiciary. At this step, autopsy examination by forensic medicine specialist is of immense importance to recognise the medicolegal injuries in the right perspective and further help the investigating officers and the judiciary in their legal conclusions. In the present study, homicidal skull fractures constituted 0.96% of total autopsies & 4% of total head injuries. Among the 10040 autopsies conducted, 211(2.1%) were homicidal in nature. Studies conducted by Mohanty [17] (3.4%) and Mishra 18 (3.8%) also revealed similar findings. Among the total homicides, homicidal head injuries accounted for 49.7%, studies by Mishra [18]showed 39.7% and Malik [19] showed 82.2%.

The study population of homicidal skull fractures constituted 46%. Study by Malik, et al. & Punia [20] revealed 71.3% and 75% respectively. Skull fractures amounted to 92.4% of homicidal head injuries, which was similar with study by Chattopadhyay[13] with 93.1% and Mishra [18] with 97.2%. The most common age group was 21-30 years. Similar findings were observed in the studies conducted by others.[17,20-25] Majority of the victims were males; similar findings were observed in various other Indian studies.[20,26,27] It was noted that the other causes of death in 20 cases (20.6%). Maximum number of deaths were noticed among lower class, which is in accordance to the study by Hugar.[21] Maximum homicides occurred during the night time which can be in darkness the chances of assailant being recognized is confusing where the similarity of this reported authors [17, 22, 28]. It was observed that married couples constituted the most (67.01%), as they were victims of infidelity, marital disharmony etc.

Majority of the victims are spot dead. Similar observation s are made out by Mishra,[18] Hugar[21] and Chattopadhyay.[13] The type of weapon inflicting the injury or skull fracture mainly depended on its prior presence at the scene of crime. It was observed that most number of cases (52.6%) showed linear fracture. Similar observations was found in other studies.[13,19,20] Majority of the cases (89.7%) presented with vault of the skull fracture, as observed by Chattopadhyay.[13] 16.5% cases presented with frontal bone fracture, as studied by Punia [20]and Chattopadhyay.[13] In 59.8% cases, combination of SDH & SAH was found, as observed by Mishra.[18]

CONCLUSION:

The word violence is shattering. In some regions where it is insurmountable problem even after strict law enforcement agencies. It is advisable to tackle these areas with drone installation. Mobile forensic teams with deft people should be available in the prone areas.

Society responsibility

To support the authorities in the enforcement of existing laws designed to prevent the unwholesome conditions in the delinquency areas and also they should cooperate with investigation agencies in the assimilation of the residents of the crime areas into the general social structure.

CONFLICT OF INTEREST: None.
FINANCIAL ASSISTANCE: None

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