Original Article

Patterns of Head Injuries in Fatal Fall from Heights

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Abstract

Head injuries are most common in medico legal investigations. It is important to ascertain if the fatal head injuries is due to fall, road traffic incidents or other causes, especially in found-dead cases with isolated head injuries. Study of patterns of injuries can help differentiate the causative factors. This study is designed to study the patterns of head injury in different categories of fall. A prospective analytical study was conducted on 92 cases of fall presenting with head injuries over a period of one year. Statistical analysis was done using the Chi-square test using SPSS software and inference was made. This study showed younger males were predominant in falls with 12-60 feet being the most common height of fall. Age of victims showed strong correlation with period of survival. All the fall cases had scalp injuries, contusion being the commonest type. The skull base injuries were present in 32.6 % of fall cases with linear fracture being the commonest type. The skull vault injuries occurred in 68.47 % of fall cases. Brain injuries were present in all fall cases. The combination of subdural hemorrhage, subarachnoid hemorrhage and contusions was commonest type of brain injury among falls. The severity of scalp, skull base and skull vault injuries increased with the increase in height of falls. The causation of fatal head injuries in falls can be determined based on the patterns of injuries elicited during the autopsy examination, keeping in mind the various other factors that had come into play in the fall deaths.

Keywords: Falls, Head injuries, medico legal, fatal

Introduction or back ground

Falls account for the second highest number of unintentional deaths worldwide, resulting in an estimated 646,000 deaths globally every year.[1] The mechanism of head injury in a fall includes both the impact to the head upon landing and the impact sustained by head with other objects before landing.[2,3] The variables that primarily influence the distribution of injuries over the body are height of falls, the intervening objects or surfaces, the landing surfaces and the manner of death.[4] Of all the regional injuries, head injuries are the most common in medico legal investigations. During post-mortem examination of fall victim, height from which he or she has fallen gives an important information during medicolegal investigation.

Material and Methods

The present study was carried out at Department of Forensic Medicine, Maharajgunj Medical Campus,

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