ABSTRACT FOR THE DISSERTATION TO BE SUBMITTED TO THE
TAMIL NADU Dr.M.G.R MEDICAL UNIVERSITY, CHENNAI, FOR
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TITLE: AUTOPSY BASED STUDY OF INCIDENCE OF VERTEBRAL
ARTERY INJURY IN FATAL NON PENETRATIVE
CERVICAL SPINE TRAUMA

ABSTRACT:

About two third of all injury in the world is due to blunt force. Spinal
injuries are more common in road traffic accidents of which cervical spine
injuries are of great concern to the Forensic experts. The vertebral artery injury
associated with blunt cervical trauma is varying and is increasingly being
diagnosed than predicted.

This study is aimed to study the incidence of vertebral artery injury in
non penetrative cervical spine trauma by gross and histopathological
evaluation and to analyze the types of vertebral artery injury in different
types of non penetrative cervical spine trauma. 25 cases with non
penetrative cervical spine trauma were assessed to detect the associated
vertebral artery injury. The vertebral artery of both sides were dissected
out and studied microscopically. In the 10 cases in which cervical spine
fracture was detected, The histopathological examination shows that intimal tear
was present in 2 cases (20%), foci of hemorrhage in 1 case (10%) and 5 cases (50%) did not have any vertebral artery abnormality. Two cases (20%) were found to have tear in the intima and media with hemorrhage in the media. Of the 6 cases of cervical vertebra subluxation, intimal tear was present in 3 cases (50%). Of the 2 cases with facet dislocation, intimal tear in vertebral artery was present in both cases (100%). Of the 7 cases with paraspinal bruise, no gross bony injury was detected. Thus vertebral artery injury associated with non penetrative cervical spine trauma is more than predicted and this implies the necessary to evaluate the same in every patient with blunt injury in head and neck.

**KEYWORDS:**

Vertebral Artery, Cervical Spine, Intimal Tear