INTRODUCTION

Injuries in the atlanto-axial region of the cervical spine have several characteristics related to both etiology and treatment that set them apart from the remainder of cervical spine injuries ;

The first important consideration is the apparent low incidence of neurologic injuries in the C1-C2 complex. Although a number of injuries to the C1-C2 region are immediately fatal and therefor don't present for treatement, the majority that do present for the treatement are not associated with neurologic injuries . There is significantly lower incidence of serious neurologic injury in the upper cervical spine than in the lower cervical spine. In part, this is due to the smaller proportion of the canal occupied by the spinal cord in the upper cervical spine . The presence of severe neck pain in absence of neurologic deficit may not direct immediate attention to the atlanto- axial complex.

The second factor that sets these injuries apart is the method by which force is applied to the C1-C2 complex . In the remainder of the cervical spine , force is usually applied either directly to the vertebra or to the level of injury .

In C1-C2 complex, however, the force is most often applied to the base of the skull. The pattern of injury or injuries is directly related to the direction that the skull impacts on the adjacent levels.

Third,most upper cervical injuries are best treated non operatively; they will heal without surgical fixation or grafting.

Posterior fusions compromise motion in the upper cervical spine to a greater degree than in the remainder of the spine. The occiput-C1 articulation supplies approximately 50 % of cervical flexion and extension; likewise; C1-C2 articulation supplies approximately 50 % of cervical rotation.

Finally, the principles of immobilisation must be strictly adherent to and mechanisms of injury of these C1-C2 complex fractures clearly understood. An An orthosis or external immobilisation device must be chosen to counteract the forces that caused the injury . If the forces are not counteracted, motion will continue across the fracture and may lead to non-union.