Identifying the Determinants of Spinal Injury as a Result of Car Accidents
An approach towards prevention of Spinal injuries

INTRODUCTION
Road traffic accidents are the leading cause of traumatic brain injuries and spinal injuries. These injuries are potentially disabling and have great influence not only on the patient’s social and financial situation but also pose a great threat to the country’s economic status. Spinal injuries as a result of the motor vehicle accidents lead to significant morbidity and mortality.

METHOD
A retro prospective cross-sectional study was conducted in Jinnah Hospital, Lahore from May 2016 to April 2017. Inclusion and exclusion criteria were made. A total 50 patients, 40 males and 10 females with spinal injuries after car accidents were included in the study. Patient’s data including personal profile, mechanism of accident, car occupant position (driver and passenger), site of accident, anatomical location of spinal fracture, spinal cord injury etc. were determined. Data was analyzed using SPSS version 21.

RESULTS
Our results exhibit that:
- Lumbosacral Spine was the most commonly involved region (72%).
- 14% patients had Spinal Cord injury.
- Anatomical regions of fracture:
  - Lumbar region (69.1%)
  - Thoracic (18.4%)
  - Cervical (9.2%)
  - Multiple spinal fractures (3.3%)
- The majority (68%) of victims were drivers, while 32% were passengers.
- Car rollover (73.8%) was the most common mechanism of spinal fractures, followed by car-car collision.
- Lumbar Spine was the main injured anatomical region in the spinal column in both mechanisms.

ANATOMICAL REGIONS
- Lumbar Region 69.1%
- Thoracic 18.4%
- Cervical 9.2%
- Multiple Spinal Fractures 3.3%  

Anatomical Regions of Fracture

<table>
<thead>
<tr>
<th>VICTIMS</th>
<th>MECHANISM OF SPINAL FRACTURE</th>
</tr>
</thead>
<tbody>
<tr>
<td>Drivers 68%</td>
<td>Car-car Collision 26.2%</td>
</tr>
<tr>
<td>Passengers</td>
<td>Car Rollover 73.8%</td>
</tr>
</tbody>
</table>

Total No. of patients
- MALE 80%
- FEMALE 20%

Traffic jams in Pakistan

SUMMARY POINTS
The ratio of spinal injuries as a result of car accidents is increasing drastically. In countries like Pakistan, this might be because of insignificant safety measures in cars, poorly designed roads and failure to implement traffic rules. Therefore, these victims are more prone to morbidity and even mortality and need more specific pre-hospital supportive or preventive interventions.

REFERENCES

CONTACT INFORMATION
Dr. Muhammad Usman Anwar
Department of Neurosurgery
Sir Ganga Ram Hospital, Lahore
Dr Usman48@gmail.com