Spinal injury patterns from car accidents: focus on prevention.

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Aim: To determine and compare the patterns of spinal injury in car occupants.

Material and Methods: This retrospective cross-sectional study enrolled all patients with spinal fractures after car accidents who were admitted to the hospital for more than 24 hours during 2004–2009.

Results: The lumbosacral spine was the most common region (64.8%). Six patients had spinal cord injury (SCI) (6.6%). The majority of the victims were drivers of the vehicle (86.8%) and the remainder were passengers. There was a significant difference in lumbar anatomic region (P=0.05) and place of accident (P=0.05) and in car occupant position (P=0.05). Car rollovers were the most common mechanism of spinal fractures. There was a significant difference in lumbar anatomic region (P=0.05) and two or more associated organ injuries (P≤0.05) in car accident mechanism (P=0.05).

Conclusion: The chances of sustaining serious spine and associated multiple injuries in car accidents are quite high in Iran. This may be due to the low level of standards or car manufacturing, absence, or inadequacy of appropriate safety measures in cars, poorly designed roads, and problems in the quality of driving to mention just a few reasons. Therefore, these victims are prone to significant morbidity and even mortality and need more specific pre-hospital supportive interventions.

Keywords: Car accident, spinal injury, road traffic accident