Association between side-impact airbag deployment and risk of injury: A matched cohort study using the CIREN and the NASS-CDS.

Submitted by admin on Mon, 08/19/2013 - 12:55pm

Title
Association between side-impact airbag deployment and risk of injury: A matched cohort study using the CIREN and the NASS-CDS.

Publication Type
Journal Article

Year of Publication
2012

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Journal
J Trauma Acute Care Surg

Volume
73

Issue
4

Pagination
914-8

Date Published
2012 Oct

ISSN
2163-0763

Keywords
Abbreviated Injury Scale, Accidents, Traffic, Adult, Air Bags, Alabama, Craniocerebral Trauma, Female, Follow-Up Studies, Humans, Incidence, Male, Retrospective Studies, Risk Factors, Thoracic Injuries

Abstract

BACKGROUND: Side-impact airbags (SABs) are designed to protect the head and thorax during a side-impact motor vehicle collision (MVC). Research on the effectiveness of SAB deployment has been limited. The objective of this study was to assess the effectiveness of deployed SABs in reducing head and thoracic injuries during side-impact MVCs.

METHODS: The 2000-2009 National Automotive Sampling System-Crashworthiness Data System and the Crash Injury Research Engineering Network databases were used to evaluate front seat occupants involved in side-impact MVCs using a matched cohort study design. The risk of serious head and thoracic injuries for occupants with and without deployed SABs were compared.

RESULTS: Occupants in vehicles with a deployed SAB designed to protect the head had a 30% lower risk of head injuries with an Abbreviated Injury Scale score of 2+ (relative risk [RR], 0.70; 95% confidence interval [CI], 0.51-0.97). Regarding thoracic injury, occupants in vehicles with a deployed SAB designed to protect the torso had a risk of injury similar to that of occupants without a deployed SAB (RR, 0.99; 95% CI, 0.79-1.24), although the risk increased for occupants 50 years and older (RR, 1.27; 95% CI, 0.84-1.93).

CONCLUSION: The results of the current suggest that although SABs protect occupants from head injury, the protective effect for thoracic injury is
limited. Future research should focus on whether the association with thoracic injury is modified by occupant seating posture.

**LEVEL OF EVIDENCE:** Prognostic study, level III.

DOI 10.1097/TA.0b013e31825a7636

Alternate Journal J Trauma Acute Care Surg

PubMed ID 22836099