Neck sprain after motor vehicle accidents in drivers and passengers

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FROM ABSTRACT:

Neck sprain is a general term denoting a soft tissue injury of the neck, which seldom causes major disability but is considered a modern epidemic.

The purpose of the present study was to determine the prevalence of sprain of the neck injury due to motor vehicle accidents (MVAs) in both drivers and passengers.

In addition, the degree of seat belt wearing in both driver and passenger was analysed.

Another aim was to identify groups at risk by analyzing the age and gender distribution of patients with neck sprain.

The results of this population-based study revealed a sharp increase in neck sprain from 1989 through 1995, whereas a more or less stable pattern was found for seat belt use.

The sharp increase was found to be attributable to outpatients.

We found a driver predominance as well as a female predominance; groups at risk were the 20- to 24-year-olds for drivers and 15- to 19-year-olds for passengers.

THESE AUTHORS ALSO NOTE:

“Neck sprain due to motor vehicle accidents (MVAs) is considered a modern epidemic.”

“Neck sprain is a general term denoting a soft tissue injury of the neck.”

“The injury evolves into a whiplash-associated disorder (WAD) in 30–40% of sufferers.”
“WAD is a major cause of disability following MVAs.”

“The frequency of neck sprain injury in the United Kingdom was noted to rise following the introduction of compulsory seat belt wearing in January 1983.”

Others have also observed a general decrease in injuries due to MVAs immediately following the seat belt legislation, with the exception of sprain of the neck.

A 1993 study reported an increase in all forms of neck sprain after the introduction of compulsory seat belts.

The purpose of this research was to determine the prevalence of sprain of the neck (ICD-9 code 847.0) due to MVAs (in both drivers and passengers) by means of a population-based study. [Importantly, injuries other than “neck sprain” were not included in this study. Therefore injuries such as disc or nerve injury, are not included].

The degree of seat belt use in both driver and passenger was analysed.

Age and gender distribution of neck sprain patients was analysed.

MATERIALS AND METHODS

A 14-year retrospective study of patients with neck sprain due to MVAs.

Patients were included in this study if their diagnosis was coded as “sprains and strains of the neck” (ICD-9 code 847.0).

RESULTS

The prevalence rates for hospital treated (inpatients) neck sprain from MVAs dropped sharply for both drivers and passengers since 1983 and have remained more or less stable in more recent years.

However, the data shows a sharp increase for outpatients (treated by a general physician) in neck sprain treatment.

“These results clearly showed an outpatient predominance in the neck sprain epidemic.”

Also, a driver predominance among those suffering neck sprain injury was found for both inpatients and outpatients.
“A female predominance was found for both inpatients and outpatients: the male/female ratio was 0.9 for inpatients and 0.3 for outpatients.”

From 1979 through 1986, seat belt use remained more or less stable.

From 1986 to 1989, a gradual increase in seat belt use is observed, and then remained stable.

The data shows that “the strong increase in neck sprain among drivers was preceded by a slight increase in seat belt use during the years 1986–1988.”

Among passengers, “levels of seat belt use increased by 3% between 1989 and 1995, while the increase in prevalence of neck sprain among passengers over the same period was even greater.”

**DISCUSSION**

“Neck sprain is a ligamentous injury of the neck, which seldom causes major disabilities.”

The incidence of neck sprain from MVAs has been on the increase over the last two decades.

“Results from previous research suggest that the increase in neck sprain injuries caused by MVAs may be attributed to an increase in the level of seat belt use following the introduction and enforcement of seat belt legislation.”

The results of this study revealed that:
“it would appear that the sharp increase in neck sprain victims cannot only be ascribed to higher levels of seat belt wearing.”

The results showed a driver predominance for MVA neck sprain.

A female predominance for MVA neck was also noted.

This female predominance is in agreement with 8 other previous studies.

“The female predominance may be ascribed to the fact that, in general, women report more health complaints, or to the smaller diameter of the neck in women, which makes them more vulnerable.”

The data shows “that the majority of the increase in neck sprain victims were treated as outpatients.”
CONCLUSIONS
The authors found:

(1) A sharp increase in neck sprain from 1989 through 1995, while a more or less stable pattern was found for seat belt use.

(2) The sharp increase was attributed to outpatient management.

(3) A driver predominance and a female predominance was observed.

“‘Sprain of the neck’ is a diagnostic rubric of the International Classification of Diseases, whereas whiplash-associated disorders (WAD) is a description of symptoms as a result of sprain of the neck.”

FROM DAN MURPHY

This study does not represent all whiplash patients because the patients included in this study only had “neck sprain” diagnostic code. Consequently, more serious injuries are not analysed, such as disc or nerve injury, cervicogenic headache, vertigo, visual disturbance, etc.

The main points from this article are:

(1) Neck sprain from MVA are increasing.

(2) Women are more often injured than men.

(3) Although there are more neck sprain injuries with increased seat belt use, increased seat belt use alone is not the sole reason for increasing neck sprains.