

Alcohol may protect trauma patients from later complications

June 6 2014



Epidemiologist Lee Friedman, UIC School of Public Health. Credit: UIC Photo Services

Injured patients who have alcohol in their blood have a reduced risk for developing cardiac and renal complications, according to a study from the University of Illinois at Chicago School of Public Health. Among patients who did develop complications, those with alcohol in their blood

were less likely to die.

The study is published in the June issue of the journal *Alcohol*.

"After an injury, if you are intoxicated there seems to be a substantial protective effect," says UIC injury epidemiologist Lee Friedman, author of the study. "But we don't fully understand why this occurs."

To better understand the link, Friedman looked at medical [complications](#) that are associated with dying in the hospital in relation to patient [blood alcohol](#) levels. Other studies have demonstrated that up to 64 percent of post-trauma deaths are attributable to a limited set of later complications.

Nearly 85,000 trauma patients with measured [blood alcohol levels](#) were included in the retrospective study, which analyzed 10 years of cases at level I and level II trauma units in Illinois. Children under 16 and patients with certain injuries, such as burns and superficial wounds, were excluded from the study.

Patients' [blood alcohol](#) content ranged from 0 to 0.5 percent—a life-threatening amount, more than six times the level of legal impairment in the U.S.

Overall, 3.2 percent of the patients studied died. Mortality was substantially higher for those who developed complications compared to those who did not (10.3 percent versus 2.1 percent). Among those who died, 43.2 percent had at least one complication.

Blood alcohol concentration was associated with a reduced risk of developing any complication, and with fewer complications overall.

In patients who had alcohol in their blood, cardiac complications were

reduced by 23.5 percent. Renal complications were reduced by 30 percent.

The study raises important questions for treatment of traumatic injury.

"Even though alcohol is metabolized quickly by the body, it appears the protective benefit lasts long after there should be only trace amounts in the body," said Friedman, who is assistant professor of environmental and occupational health sciences at UIC.

It is unclear, he said, if alcohol's protective effect comes during the initial period after injury, when alcohol is still present in the blood—or if the benefit comes from alcohol's metabolites, in tandem with the body's compensatory responses to both the alcohol and the injury.

"The current analysis shows there were reductions in medical complications dominating the cardiovascular system and kidneys, which provides clues to solving this interesting and potentially life-saving puzzle," Friedman said.

More information: Paper: [www.alcoholjournal.org/article ... \(14\)00072-X/abstract](http://www.alcoholjournal.org/article ... (14)00072-X/abstract)

Provided by University of Illinois at Chicago

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