
RSNA 2019: Gunshot Injuries Have Long-term Medical Consequences



An analysis of data on 110 gun-violence patients reveals that gunshot wounds to the thorax (chest) or abdomen are associated with increased likelihood of hospital readmission. This finding being presented next week at the annual meeting of the Radiological Society of North America (RSNA) may help provide guidance on improving care for gunshot victims.

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Gun violence maybe a national health emergency in the U.S. but, as noted in the study, there is a dearth of research investigating the long-term consequences of gunshot-related injuries.

"The vast majority of research on gun violence focuses on emergency care, but in reality only a tiny fraction of the billions spent on medical care from gun violence in the U.S. is spent on direct expenses for emergency medical care," said lead researcher Corbin L. Pomeranz, MD, radiology resident at the Department of Radiology, Sidney Kimmel Medical College, Thomas Jefferson University in Philadelphia, Pa.

Since the bulk of the cost of treating victims of gun violence is spent on ongoing care, including treating the complications associated with gunshot wounds, identifying injury patterns that can predict future outcomes becomes imperative.

This retrospective analysis covered patients with a history of prior gunshot wounds who were seen in the emergency room at Thomas Jefferson University Hospital between January and April of 2018. The majority of study patients were men (91.8%). Using the imaging database, the researchers collected information on the patients, including age, gender, admitting hospital unit, the number of readmissions and surgeries, imaging data and gunshot wound history.

Key findings of the study include:

- In the studied period, 110 patients with a history of a gunshot injury returned to the hospital and underwent a total of 174 imaging exams;
- Of the 110 patients, 36 were readmitted to the hospital with neurologic, visceral (thorax [chest] plus abdomen) or extremity injuries. Of those, 18 were readmitted due to complications associated with their prior gunshot wounds. Three surgeries were performed after readmission, two of which were chest surgeries; and
- Neurologic injuries were the most common injury in the study group (24 patients), followed by abdominal and chest wounds (9 patients).

Based on the results, the type of gunshot injury was the strongest predictor of hospital readmission. Patients who had a gunshot wound to the thorax or abdomen were more likely to be readmitted to the hospital.

"Where you are shot has an effect on your long-term health," Dr Pomeranz said. "A location and injury severity scale based on imaging findings could be used to predict long-term consequences as well as the costs of gunshot wounds."

Our goal is to show hospitals how they can build their own database to identify patients at risk for readmission, Dr Pomeranz said, adding this information will show which patients will need more aggressive home care.

"We want to help these patients stay out of the hospital, but we also want to help improve their quality of life," he said. "That's the physician's job."

Source: Radiological Society of North America
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Published on : Thu, 28 Nov 2019