



Whole-Body CT after Motor Vehicle Crash: No Benefit after High-Energy Impact and with Normal Physical Examination

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Background Debate continues about the risks and benefits of systematic whole-body CT when no injury is clinically suspected. Risks of whole-body CT include high radiation exposure and iodine contrast agent, but its effectiveness in reducing mortality in low-risk motor vehicle crashes is unclear. Purpose To assess unsuspected injuries revealed at whole-body CT in patients following motor vehicle crash (MVC) meeting only kinetic elements of the Vittel criteria for the severity of trauma, with no evidence of trunk injury and a Glasgow Coma Scale score of 15. Materials and Methods This retrospective study included all consecutive adult patients who consulted an emergency department of a level 1 trauma center between August 2016 and July 2017 if they underwent whole-body CT for one or more kinetic elements of the Vittel criteria, had a normal examination of the trunk, and had a Glasgow Coma Scale score of 15. Data of the MVC mechanism and physical and biologic examinations were collected, as well as patient treatment data after whole-body CT. Whole-body CT examinations were read by two double-blinded readers to help detect unsuspected injuries. Results Ninety-three patients were included; 72 were men with a mean age of 30.8 years \pm 12.0 (standard deviation). Sixty-nine patients were occupants of a car. Seventeen patients were hit by a car while on motorbikes, three while on bicycles, and four as pedestrians. Undiscovered injuries were depicted at 11 whole-body CT examinations: eight lung contusions, one acetabular fracture, one sternal fracture, and one adrenal hematoma. None of these injuries required a specific treatment. One patient with lung contusion of more than 30% of lung volume was followed without requiring further treatment. Conclusion In this population, whole-body CT did not lead to any change in patient treatment. These results suggest whole-body CT should not be systematically performed when no evidence of trunk injury is observed in patients following motor vehicle crash meeting only kinetic elements of Vittel criteria. © RSNA, 2019 See also the editorial by Munera and Durso in this issue.

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