

Patients receiving CT for atraumatic headache in ER less likely to return within 30 days

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A retrospective observational study illustrates that patients who underwent CT examination for atraumatic headache in an initial emergency department (ED) visit were less likely to return to the ED within 30 days.

The study titled "The Association Between Use of Brain CT for Atraumatic Headache and 30-Day Emergency Department Revisitation" was published in the December 2016 issue of the *American Journal of Roentgenology*.

"I think it would be easy to misinterpret this study as a call for increasing the practice of ordering CT scans for atraumatic headache," said study coauthor Brian W. Patterson. "Our findings do not support such a recommendation. Rather, we are calling attention to the downstream effects of these scans, and suggesting that future attempts to define appropriateness of imaging within the ED will need to account for their potential to lessen future care utilization."

The authors became interested in the topic upon noting the growing trend of criticism associated with the increased rate of CT imaging in EDs. The study states: "A variety of efforts have been aimed to reduce CT use within the ED given the costs and risks associated with ionizing radiation. Specifically, the use of CT of the brain for patients with atraumatic headache has been identified as potentially inefficient, as

evidenced by wide variation in ordering rates between ED providers and low diagnostic yields."

Patterson said the issue places emergency care at the center of two conflicting trends: an increasing scope of practice as a referral center for outpatient diagnosis and a simultaneous increase in scrutiny of ED imaging and resource utilization. "This conflict creates a need to evaluate the value added by advanced imaging performed during ED visits, and to better understand how imaging use at an initial ED visit influences subsequent resource utilization and outcomes," said Patterson, assistant professor, BerbeeWalsh Department of Emergency Medicine, University of Wisconsin School of Medicine and Public Health, Madison.

A possible explanation for the study finding is that CT provided reassurance to patients, thereby preventing return ED visits. Another possible explanation is that outpatient providers, particularly primary care clinicians, may be able to better focus on and manage the symptoms of an acute headache after a CT scan has been performed in the ED setting to rule out emergent pathology.

The study was performed at Northwestern Memorial Hospital, Chicago, IL, which has more than 85,000 annual visits. Of 80,619 total patient visits to the ED during the study period, 922 ED discharges with a chief complaint of headache were included. A total of 139 (15.1%) patients revisited within 30 days, and the return rate was 11.2% among patients who underwent CT at their initial visit and 21.1% among those who did not.

The study was based on a presentation at the Society for Academic Emergency Medicine 2013 annual meeting, Dallas, TX.

More information: Brian W. Patterson et al. The Association Between Use of Brain CT for Atraumatic Headache and 30-Day Emergency

Department Revisitation, *American Journal of Roentgenology* (2016).
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