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Clinical audit regarding adherence to emergency CT imaging pathways in anticoagulated elderly patients with a post-fall head injury.

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Abstract

Background: Anticoagulating patients prone to falls is a complicated decision, given the risk of intracranial haemorrhage (ICH). However, the balance of literature potentially now contradicts the weight of this risk. Several articles were identified demonstrating that anticoagulation is generally weakly associated with ICH, and that other signs such as reduced Glasgow coma scale (GCS) or skull fractures are better predictors. Yet anticoagulation was a key criterion for CT scanning patients who have sustained a head injury (HI) under National Institute for Health and Care Excellence (NICE) guidelines (2014), which state that even in the absence of other risk factors, anticoagulated patients should have a CT head scan within eight hours of HI, or within the hour if presenting more than eight hours from injury. Given the literature findings, it would be reasonable to assume that clinicians may doubt the usefulness of such guidelines, and hence clinical practice may vary. A research question was therefore created- 'Are emergency department (ED) clinicians appropriately CT scanning anticoagulated elderly patients with a post-fall head injury in accordance with local trust protocol?'

Methods: An audit was designed to answer this question, which involved retrospectively reviewing 50 anticoagulated patients aged 65 or over who had presented to the ED of a single secondary care Trust, over a three-month period due to a post-fall HI, to ascertain whether they had a CT scan in the recommended timeframe.

Results: The audit identified the department's compliance with guidelines as 78%, though most non-compliance was linked to a subset of patients who required a scan within one hour of attendance as their injury occurred more than eight hours prior, and if this subset was excluded, compliance was 93%. The one-hour scan target was subsequently discussed as being potentially unrealistic given National Health Service (NHS) pressures. Upon further scrutiny, the department's non-compliance can be divided into scans which were delayed, or not done, though it is important to note that none of these patients came to harm as a result.

Conclusions: This study was limited by the fact that during the course of the project, NICE altered their guidelines, firstly to include antiplatelet medications, and secondly to recommend that in the absence of other risk factors, CT scan need only be considered rather than automatically done. This had significant implications for the audit but enabled the data to be reinspected following the change. While this was a subjective analysis, it appeared that the guidelines had been changed in line with evidence from the literature review and this audit's findings and highlighted that as clinicians become more familiar with the updated guidelines, significant time and money could be spared for this indication. This project has set a precedent for expanding the scope of this audit and evidenced where further research may be indicated.

Keywords: Head Injury | Anticoagulation | CT Head | Intracranial Haemorrhage |

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