Patients who received contrast for a CT scan through an USGIV had a higher risk of extravasation than those who received contrast through a standard peripheral IV” Rupp et al (2016).

Abstract:

OBJECTIVE: Ultrasound guided intravenous catheter (USGIV) insertion is increasingly being used for administration of intravenous contrast for computed tomography (CT) scans. The goal of this investigation was to evaluate the risk of contrast extravasation among patients receiving contrast through USGIV catheters.

METHODS: A retrospective observational study of adult patients who underwent a contrast-enhanced CT scan at a tertiary-care emergency department during a recent 64-month period was conducted. The unadjusted prevalence of contrast extravasation was compared between patients with an USGIV and those with a standard peripheral IV inserted without ultrasound. Then, a two-stage sampling design was used to select a subset of the population for a multivariable logistic regression model evaluating USGIVs as a risk factor for extravasation while adjusting for potential confounders.

RESULTS: In total, 40,143 patients underwent a contrasted CT scan, including 364 (0.9%) who
had contrast administered through an USGIV. Unadjusted prevalence of extravasation was 3.6% for contrast administration through USGIVs and 0.3% for standard IVs (relative risk: 13.9, 95% CI: 7.7 to 24.6). After adjustment for potential confounders, CT contrast administered through USGIVs was associated with extravasation (adjusted odds ratio: 8.6; 95% CI: 4.6, 16.2). No patients required surgical management for contrast extravasation; one patient in the standard IV group was admitted for observation due to extravasation.

CONCLUSIONS: Patients who received contrast for a CT scan through an USGIV had a higher risk of extravasation than those who received contrast through a standard peripheral IV. Clinicians should consider this extravasation risk when weighing the risks and benefits of a contrast-enhanced CT scan in a patient with USGIV vascular access.

Reference:

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