To evaluate the frequency, outcome, and risk factors of intravenous contrast media (CM) extravasation during contrast-enhanced CT scans in a large population” Hwang et al (2018).

Abstract:

OBJECTIVE: To evaluate the frequency, outcome, and risk factors of intravenous contrast media (CM) extravasation during contrast-enhanced CT scans in a large population.

METHODS: After institutional review board approval, 142,651 patients (72,976 males and 69,675 females; mean age, 59.9 ± 13.0 years) who underwent contrast-enhanced CT scans with intravenous CM between January 2015 and April 2017 were retrospectively included. The frequency of CM extravasations and their clinical outcomes were investigated. Risk factors of CM extravasation were evaluated using logistic regression with generalized estimating equation analyses. In addition, the frequency and risk factors of large-volume (≥100 ml) CM extravasation were also investigated.

RESULTS: CM extravasation occurred in 0.23% (321/142,651) of patients, all of which were of mild degree and resolved without any sequelae through conservative management. Multivariate analysis revealed that female gender, 60 < age ≤ 70 years (OR = 1.71; p = 0.004) or age > 70 years (OR = 2.49; p < 0.001), patients in general wards (OR = 2.71; p < 0.001) or ICUs (OR = 4.76; p < 0.001), 9.4 < CM viscosity ≤ 10.0 (OR = 1.65; p = 0.015), 10.0 < CM viscosity ≤ 10.6 (OR = 1.60; p = 0.002), and CM viscosity > 16.0 (OR = 2.55, p < 0.001) were independent risk factors for CM extravasation.

CONCLUSION: CM extravasation during contrast-enhanced CT scans was uncommon with no substantial clinical consequences. Several risk factors that may have the potential to reduce the occurrence of CM extravasation were identified.

KEY POINTS: The observed frequency of contrast media extravasation during contrast-enhanced CT scans was 0.23% (321/142,651). Significant risk factors for contrast media extravasation were female gender, age older than 60 years, patients in general wards or ICUs, and the viscosity of contrast media greater than 9.4 mPa’. The main preventive action for contrast media extravasation would be to lower the viscosity of contrast media.
Reference:
