

LETTER TO THE EDITOR

Contrast-Enhanced CT in Patients With Kidney Disease: Some Considerations in Response to the ACR/NKF Consensus



To the Editor:

We read with interest the American College of Radiology/National Kidney Foundation (ACR/NKF) consensus statements¹ and would like to emphasize the following points.

- The low risk perception is mostly based on retrospective propensity-matched analyses, hardly “well-controlled” with potential selection bias, and has been graded as low evidence²
- We believe that more research is needed on biomarkers indicating early structural kidney damage induced by contrast material and on acute kidney injury (AKI) definition^{3,4}
- All referenced retrospective studies used iso-osmolar contrast media (IOCM) and low-osmolar contrast media (LOCM); however, IOCM was used in high-risk patients. LOCM was acknowledged as a significant risk factor at estimated glomerular filtration rates (eGFRs) ≤ 30 mL/min/1.73 m² (trend toward significant at 30-44 mL/min/1.73 m²)⁵
- The only referenced meta-analysis found no clinically relevant difference between IOCM and LOCM (defined arbitrarily as a 25% relative risk reduction) but was statistically significant in favor of IOCM. “Clinical relevance” is of particular interest. Even subclinical contrast-induced AKI, as indicated by structural tubular damage, may put patients at higher long-term risks, and specific patient cohorts may be considered for a special management algorithm including IOCM
- To increase the safety margins, one may not only consider “high risks” but also “moderate risks” (GFRs of 30-44 mL/min/1.73 m²). In addition, due to poor precision, 10% to 30% of GFR estimates exceed 30% of measured GFRs, and to be 95% certain that measured GFR is > 30 mL/min/1.73 m², eGFR threshold may need to be at least 45 mL/min/1.73 m².² Every single case of AKI should be worth avoiding.

According to the precautionary principle, the burden of proof is placed on those claiming that contrast material at GFRs ≥ 30 mL/min/1.73 m² is harmless with the present scientific uncertainty.

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