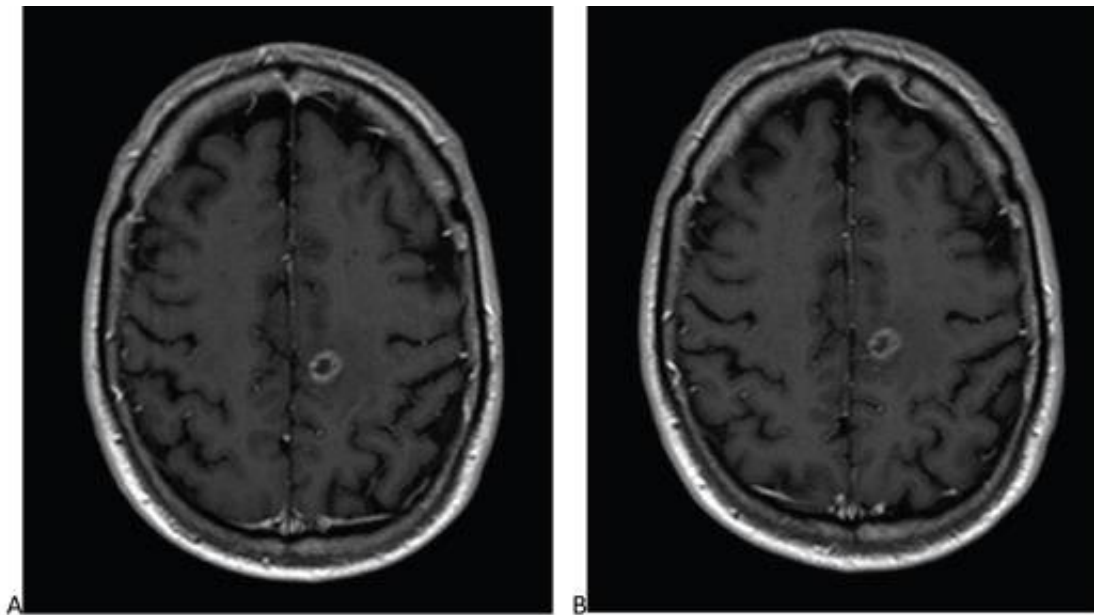


Reduced-dose gadobutrol vs standard-dose gadoterate for contrast-enhanced brain MRI

June 17 2021



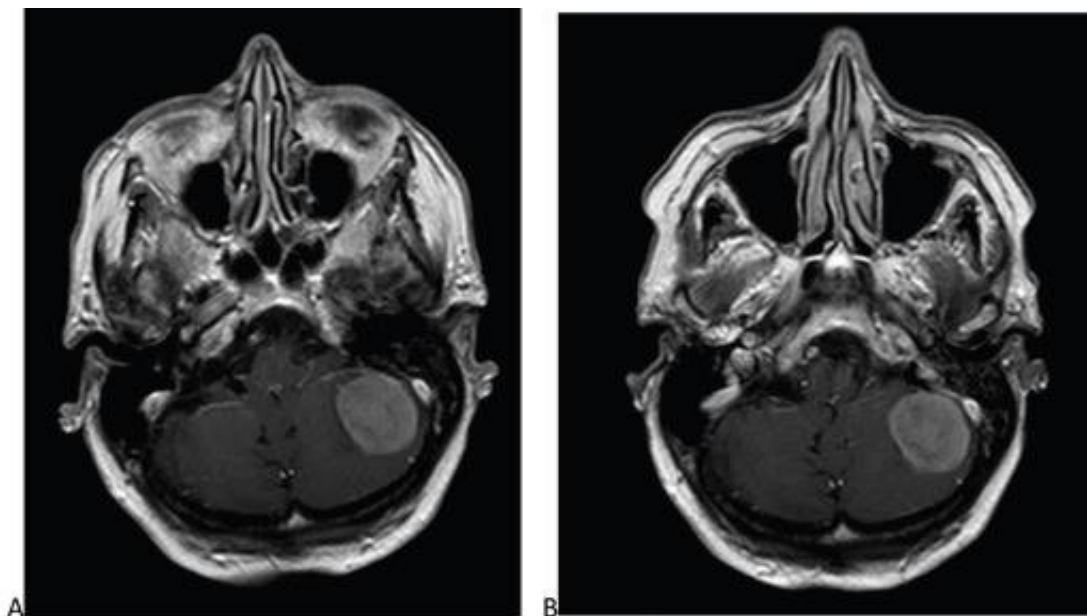
Axial T1-weighted MR images obtained using (A) standard-dose gadoterate and (B) reduced-dose gadobutrol 4 days later. Mean score across the three readers for standard-dose gadoterate and reduced-dose gadobutrol was 3.4 and 3.4, respectively, for subjective lesion enhancement; 3.5 and 3.4, respectively, for lesion border delineation; and 2.9 and 2.9, respectively, for lesion internal morphology. Credit: American Roentgen Ray Society (ARRS), *American Journal of Roentgenology* (AJR)

According to ARRS' *American Journal of Roentgenology* (AJR), a reduced dose of gadobutrol is non-inferior to 100%-standard dose of gadoterate for contrast-enhanced brain MRI.

"A 25% reduced gadobutrol dose demonstrated non-inferior efficacy versus standard dose gadoterate for contrast-enhanced brain MRI," corresponding author Jan Endrikat of Germany's University Medical School of Saarland elaborated, "warranting particular consideration in [patients](#) undergoing multiple contrast-enhanced examinations."

In this international, prospective, multicenter, open-label, crossover trial (LEADER-75), 141 patients (78 men, 63 women; mean age, 58.5 years) with known or suspected CNS pathology underwent [contrast](#)-enhanced brain MRI with standard-dose gadoterate (0.1 mmol/ kg). If an enhancing lesion was identified, a second MRI with reduced-dose gadobutrol (0.075 mmol/kg) was performed within 15 days.

Comparison of reduced-dose gadobutrol and standard-dose gadoterate versus unenhanced imaging demonstrated noninferiority using 20% margin for three primary efficacy measures: subjective lesion enhancement, lesion border delineation, lesion internal morphology.

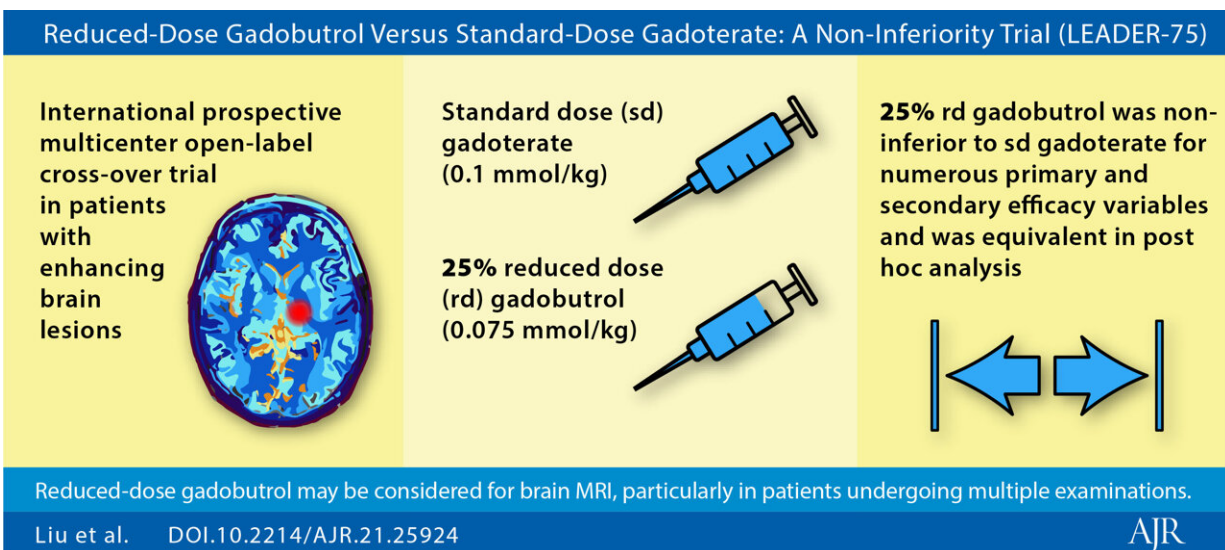


Axial T1-weighted MR images obtained using (A) standard-dose gadoterate and

(B) reduced-dose gadobutrol one later. Mean score across the three readers for standard-dose gadoterate and reduced-dose gadobutrol was 3.3 and 3.0, respectively, for subjective lesion enhancement; 4.0 and 3.3, respectively, for lesion border delineation; and 3.0 and 2.7, respectively, for lesion internal morphology. Credit: American Roentgen Ray Society (ARRS), *American Journal of Roentgenology* (AJR)

Furthermore, in post-hoc analysis, mean readings for subjective lesion enhancement, lesion border delineation, and lesion internal morphology differed by less than 1%—supporting equivalence using a narrow $\pm 5\%$ margin.

"Various secondary variables also supported non-inferiority of reduced-dose gadobutrol," the authors of the *AJR* article added.



"Various secondary variables also supported non-inferiority of reduced-dose gadobutrol," the authors of this *AJR* article added. Credit: American Roentgen Ray Society (ARRS), *American Journal of Roentgenology* (AJR)

More information: Benjamin P. Liu et al, Clinical Efficacy of Reduced Dose Gadobutrol Versus Standard Dose Gadoterate for Contrast-Enhanced MRI of the CNS: An International Multicenter Prospective Crossover Trial (LEADER-75), *American Journal of Roentgenology* (2021). [DOI: 10.2214/AJR.21.25924](https://doi.org/10.2214/AJR.21.25924)

Provided by American Roentgen Ray Society

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