



## The MERIT study

Does Higher Gadolinium Concentration Play a Role in the Morphologic Assessment of Brain Tumors? Results of a Multicenter Intraindividual Crossover Comparison of Gadobutrol versus Gadobenate Dimeglumine (the MERIT Study)

by Z. Seidi, J. Vymazal, M. Mechl, M. Goyal, M. Herman, C. Colosimo, M. Pasowicz, R. Yeung, B. Paraniak-Gieszczyk, B. Yemen, N. Anzalone, A. Citterio, G. Schneider, S. Bastianello, J. Ruscalledu, AJNR March 2012

### BACKGROUND AND PURPOSE

Gadobenate dimeglumine has proved advantageous compared with other gadolinium-based contrast agents for contrast-enhanced brain MR imaging. Gadobutrol is a more highly concentrated agent (1.0 mol/L). This study intraindividually compared 0.1-mmol/kg doses of these agents for qualitative and quantitative evaluation of brain tumors.

### MATERIALS AND METHODS

Adult patients with suspected or known brain tumors underwent 2 identical MR imaging examinations at 1.5T, 1 with gadobenate dimeglumine and the other with gadobutrol, both at a dose of 0.1-mmol/kg body weight. The agents were injected in randomized order separated by 3–14 days. Imaging sequences and acquisition timing were identical for the 2 examinations. Three blinded readers evaluated images qualitatively for diagnostic information (lesion extent, delineation, morphology, enhancement, global preference) and quantitatively for CNR and LBR.

### RESULTS

One hundred fourteen of 123 enrolled patients successfully underwent both examinations. Final diagnoses were intra-axial tumors, metastases, extra-axial tumors, “other” tumors, and “nontumor” (49, 46, 8, 7, and 4 subjects, respectively). Readers 1, 2, and 3 demonstrated preference for gadobenate dimeglumine in 46 (40.7%), 54 (47.4%), and 49 (43.0%) patients, respectively, compared with 6, 7, and 7 patients for gadobutrol (P

### CONCLUSIONS

Significantly greater morphologic information and lesion enhancement are achieved on brain MR imaging



with 0.1-mmol/kg gadobenate dimeglumine compared with gadobutrol at an equivalent dose.

Um den vollständigen Artikel zu lesen, klicken Sie bitte [hier!](#)