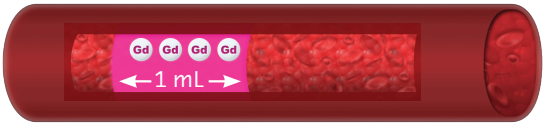
Gadovist®: double the concentration, half the volume and superior relaxivity*

2x greater volume is required by other macrocyclic agents compared to Gadovist®[1–3]



1.0 mmol/mL Gadovist®

0.5 mmol/mL GBCA

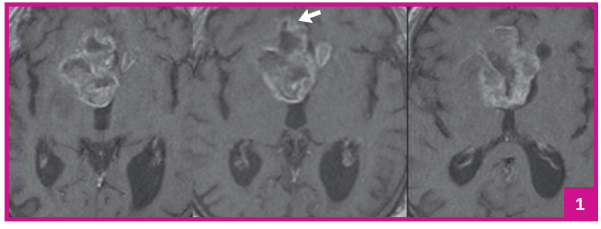
21–31%
lower relaxivity
is offered by competing macrocyclic agents at 1.5T compared to Gadovist®[4*†]

Gd=gadolinium; GBCA=gadolinium-based contrast agent.
* Relaxivity is a marker for the ability of a GBCA to enhance signal intensity on the magnetic resonance image and a prerequisite of technical efficacy of GBCAs.[5]
† Other macrocyclic GBCAs include DOTAREM® and ProHance®.

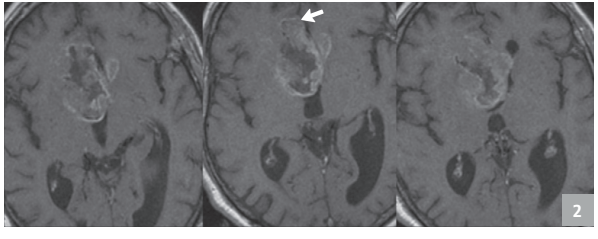
Clear Direction. From Diagnosis to Care.

Gadovist® 1.0
Gadobutrol

Gadovist® showed better visualization of enhancing brain lesion vs. DOTAREM®[6]



Gadovist®



DOTAREM®

A 69-year-old male patient with butterfly glioma (glioblastoma WHO grade IV). Three consecutive T1-weighted images after a single dose (0.1 mmol/kg body weight) of Gadovist® (**1**) and DOTAREM® (2).

¡ In 66% of assessments (131/199), Gadovist® was better than DOTAREM® in terms of overall preference*†

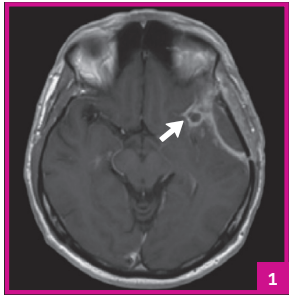
Gadovist® provided:

- ✓ Better contrast enhancement of lesions than DOTAREM® (p<0.001)
- ✓ Higher lesion-to-brain signal (p<0.001)
- ✓ 9% difference in relative enhancement (p<0.001)

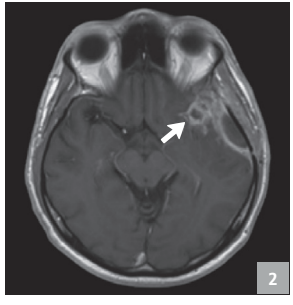
* Three independent blinded readers assessed off-site their overall diagnostic preference (primary efficacy parameter) based on a matched pairs approach.
† Assessments in which a preference for either agent was expressed (p<0.001). No preference recorded in a further 175.

Gadovist® demonstrated significantly higher sensitivity and accuracy for detection of malignancy compared to ProHance® without a change in specificity[8]

Follow-up evaluation for a glioma diagnosis using contrast-enhanced T1-weighted images



Gadovist®
Enhancement with sharp delineation of the anatomic involvement, which was diagnosed as residual/ recurrent high-grade glial tumour.



ProHance®
Less sharp rings of enhancement that were characterized as infection rather than tumour.

	Gadovist®	ProHance®	Nominal p-value
Sensitivity (n=93)	66.7%	60.2%	*p*=0.014
Specificity (n=199)	97.5%	97.5%	*p*=1.000
Accuracy (n=292)	87.7%	85.6%	*p*=0.034

Sensitivity, specificity and accuracy in determination of malignancy for combined Gadovist® contrast-enhanced vs. combined ProHance® contrast-enhanced imaging (majority reader diagnosis). Full analysis set (n=336).

Lower quality imaging with other macrocyclic agents can lead to less differentiation of malignant vs. benign lesions, which can have an impact on diagnosis and patient care

Gadovist® 1.0

Gadobutrol

Superior results compared to other GBCAs

Double the concentration

Half the volume

Superior relaxivity

Benefits for you and your patients

- ✓ Less contrast agent used[1–3]
- ✓ Increased signal and contrast on images[7,10]
- ✓ Enhanced image quality[6]
- ✓ Higher sensitivity and accuracy for detection of malignancy[8]
- ✓ Improved diagnostic confidence[8,9]

Clear Direction. From Diagnosis to Care.

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INDICATIONS and IMPORTANT SAFETY INFORMATION[1]

GADOVIST® 1.0 mmol/mL solution for injection. **Composition:** GADOVIST 1.0 is a clear, sterile, aqueous solution. Each mL of GADOVIST 1.0 contains 604.72 mg (1.0 mmol) of gadobutrol, 1.211 mg trometamol, 0.013 mg sodium (0.00056 mmol), and 0.513 mg calcium sodium butrol in water for injection. The pH of GADOVIST 1.0 is adjusted to between 6.6 and 8.0 with hydrochloric acid. **Indications:** GADOVIST 1.0 (gadobutrol) is a medicinal product for diagnostic use only. GADOVIST 1.0 (gadobutrol) is indicated in adults and children of all ages including term newborns for: contrast enhancement during cranial and spinal MRI investigations and for contrast-enhanced magnetic resonance angiography (CE-MRA); contrast enhanced MRI of the breast to assess the presence and extent of malignant breast disease, and MRI of the kidney. GADOVIST 1.0 is particularly suited for cases where the exclusion or demonstration of additional pathology may influence the choice of therapy or patient management, for detection of very small lesions and for visualization of tumours that do not readily take up contrast media. GADOVIST 1.0 is also suited for perfusion studies for the diagnosis of stroke, detection of focal cerebral ischemia and tumour perfusion. **Contraindications:** GADOVIST 1.0 should not be administered to patients who have experienced a life-threatening reaction to GADOVIST 1.0 previously.

Serious warnings and precautions for use: Gadolinium-based contrast agents (GBCAs) increase the risk for Nephrogenic Systemic Fibrosis (NSF) in patients with: chronic severe renal insufficiency (glomerular filtration rate <30 mL/min/1.73m^2), or acute renal failure / acute kidney injury. In these patients, avoid use of GBCAs unless the diagnostic information is essential and not available with noncontrast-enhanced magnetic resonance imaging (MRI). NSF may result in fatal or debilitating systemic fibrosis affecting the skin, muscle, and internal organs. Screen all patients for renal dysfunction by obtaining a history and/or laboratory tests. When administering a GBCA, do not exceed the recommended dose and allow a sufficient period of time for elimination of the agent from the body prior to any readministration. **Adverse reactions:** Patients with a history of previous reaction to contrast media, allergic disorders or bronchial asthma suffer more frequently from hypersensitivity reactions than others. As with other contrast media, delayed allergoid reactions occurring hours or days after administration have been observed, though rarely. Anaphylactoid reactions may occur. Transient sensations of taste or smell perversion may occur during or immediately after injection of GADOVIST 1.0.

References: 1. GADOVIST® 1.0 Product Monograph, Bayer Inc., September 30, 2021. **2.** ProHance® Product Monograph, Bracco Imaging Canada, March 24, 2022. **3.** DOTAREM® Product Monograph, Guerbet, imported by Methapharm Inc., April 23, 2018. **4.** Szomolanyi P, et al. Comparison of the relaxivities of macrocyclic gadolinium-based contrast agents in human plasma at 1.5, 3 and 7 T, and blood at 3 T. *Invest Radiol* 2019 [Epub ahead of print]. **5.** Tóth É, Helm L and Merbach A. Relaxivity of gadolinium(III) complexes: Theory and mechanism. In: Merbach A, Helm L, Tóth É, eds. The chemistry of contrast agents in medical magnetic resonance imaging. Second Edition ed: John Wiley & Sons, Ltd; 2013:25–81. **6.** Anzalone N, et al. Cerebral neoplastic enhancing lesions: multicenter, randomized, crossover intraindividual comparison between gadobutrol (1.0M) and gadoterate meglumine (0.5M) at 0.1 mmol Gd/kg body weight in a clinical setting. *Eur J Radiol* 2013;82(1):139–45. **7.** Anzalone N, et al. **8.** Gutierrez JE, et al. Safety and Efficacy of Gadobutrol for Contrast-enhanced Magnetic Resonance Imaging of the Central Nervous System: Results from a Multicenter, Double-blind, Randomized, Comparator Study. *Magn Reson Insights* 2015;8:1–10. **9.** Katakami N, et al. Magnetic resonance evaluation of brain metastases from systemic malignances with two doses of gadobutrol 1.0 m compared with gadoteridol: a multicenter, phase ii/iii study in patients with known or suspected brain metastases. *Invest Radiol* 2011;46(7):411–18. **10.** Kanal E, Maravilla K and Rowley HA. Gadolinium contrast agents for CNS imaging: current concepts and clinical evidence. *AJNR Am J Neuroradiol* 2014;35(12):2215–26.