



Volumetric assessment of myocardial viability in rats using 3D double contrast enhanced T1 and T2-weighted MRI

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Résumé en anglais	<p>OBJECTIVE: Volumetric evaluation of the myocardial viability post-infarction in rats using 3D in vivo MR imaging at 7 T using injection of an extracellular paramagnetic contrast agent and intravascular superparamagnetic iron oxide nanoparticles in the same imaging session.</p> <p>MATERIALS AND METHODS: Five hours after induction of permanent myocardial infarction in rats (n=6), 3D in vivo T1- and T2-weighted MR Imaging was performed prior to and after Gd-DOTA injection (0.2 mmol/kg) and prior to and after nanoparticle injection (5 mg Fe/kg) to assess infarct size and myocardial viability.</p> <p>RESULTS: 3D MR Imaging using a successive contrast agent injection showed a difference of infarct size after Gd-DOTA injection on T1-weighted images compared to the one measured on T2-weighted images after Gd-DOTA and nanoparticle injection.</p> <p>CONCLUSION: The use of 3D T1- and T2-weighted MR Imaging using a double contrast agents protocol made possible the accurate characterization of myocardial infarction volume and allowed the detection of myocardial viability post-infarction in rats.</p>
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