

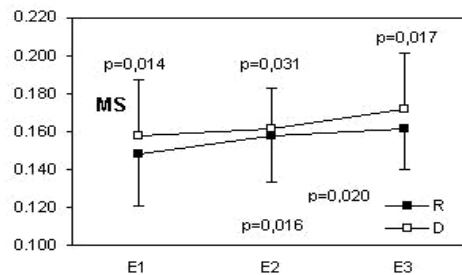
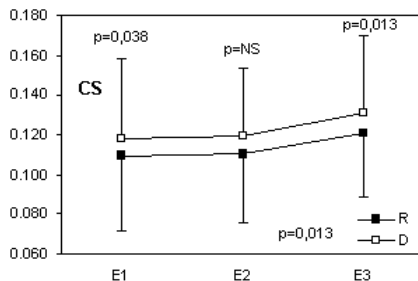
## Evaluation of left ventricular contractility in patients with antero-septal myocardial infarction during clinical treatment follow-up: evaluation by magnetic resonance imaging

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**Background:** Magnetic resonance imaging with myocardial tagging technique (MRI-T) is well suited to monitor left ventricular (LV) regional function. MRI-T is a noninvasive technique, which can track LV global and regional contractile abnormalities during long-term follow-up. Our aim was to assess the value of low-dose dobutamine MRI-T for the evaluation of LV function in patients with antero-septal myocardial infarction (MI) during clinical follow-up. **Methods:** MRI-T was performed at rest (R) and during low doses of dobutamine (D)(10 mcg/kg/ml) in 23 patients (18 men) (mean age 53.8±9.1 years) with previous MI (≥1 month). MRI-T studies were evaluated and compared among each follow-up step: at protocol inclusion (E1), after 4 months (E2) and 10 months (E3). Cine-images were acquired during breath-hold with at 6-8 LV short-axis using of an ECG-triggered gradient-echo sequence with spatial modulation of magnetization (DANTE-SPAMM): TR / TE: 6.2/2.3 msec; FA: 15; FOV: 36 cm; matrix: 256x160; BW: 31.25 kHz; Thk: 8 mm; Gap: 2mm; NEX: 1. Tag separation: 7 mm. End diastolic (EDV) and systolic (ESV) volumes, ejection fraction (EF) were analyzed using Simpson method (Mass Analysis Plus-GE Medical Systems - USA). We calculated a global maximum shortening (MS) and circumferential shortening (CS) index by averaging the entire LV (Find tags software - Johns Hopkins University -USA). **Results** There was no significant difference in EDV, ESV and EF from E1, E2, and E3. There was significant improvement in CS (p=0,013) and MS (p=0,007).

	E1	E2	E3	P
<b>CS</b>				
<b>R</b>	-0.1096 ± 0.038	-0.1101 ± 0.034	-0.1205 ± 0.032	<0.04
<b>D</b>	-0.1176 ± 0.041	-0.1193 ± 0.034	-0.1311 ± 0.039	<0.04
<b>MS</b>				
<b>R</b>	-0.1481 ± 0.028	-0.1516 ± 0.024	-0.1608 ± 0.021	<0.04
<b>D</b>	-0.1576 ± 0.029	-0.1614 ± 0.021	-0.1717 ± 0.029	<0.04



**Conclusions**— MRI-T with Dobutamine showed quantitative improvement in LV function, being an excellent tool to monitor medical treatment during follow-up.