

# Myocardial lipids and creatine measured by magnetic resonance spectroscopy among patients with heart failure Determinaciones de niveles de creatina y lípidos mediante espectroscopia por resonancia magnética en miocardio de pacientes con insuficiencia card

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**Background:** Heart failure (HF) is characterized, among other features, by the development of alterations in myocardial energy metabolism, involving a decrease in glucose utilization and increased free fatty acid uptake by cardiomyocytes, associated with decreased deposits of high-energy phosphates (creatine phosphate/ creatine transporter). Magnetic resonance (MR) imaging allows a direct and noninvasive assessment of myocardial metabolites. **Aim:** To measure myocardial creatine and lipids by MR spectroscopy among patients with HF. **Material and Methods:** Cardiac MR spectroscopy (1.5 Tesla) with Hydrogen antenna and single voxel acquisition was performed in five patients with non-ischemic heart failure, aged  $58 \pm 9.7$  years, (60% males) and 5 healthy volunteers matched for age and sex. We analyzed the signals of creatine (Cr), lipids (L) and

water (W) in the interventricular septum, establishing the water/lipid (W/L) and water/creatine (W/Cr) index to normalize the values obtained. Results: