THE INFLUENCE OF THYROID HORMONES ON PERIPHERAL VASCULATURE AFTER ACUTE MYOCARDIAL INFARCTION

Vanessa Duarte Ortiz; Alexandre Luz de Castro; Rafaela Siqueira; Jéssica H. Poletto Bonetto; Adriana Conzatti; Tânia Regina Gatelli Fernandes; Adriane Belló-Klein; Alex Sander da Rosa Araujo

1 Laboratory of Cardiovascular Physiology, Department of Physiology, Basic Sciences Institute of Health, Federal University of Rio Grande do Sul, Porto Alegre, RS, Brazil.

Introduction: The treatment with thyroid hormones (TH) have presented positives effects over the myocardium after acute myocardial infarction (AMI), but there is no data regarding the influence of AMI and this treatment over the peripheral vasculature. Objective: The main goal was to analyze the influence of these factors on the peripheral vasculature through parameters of oxidative stress, angiogenesis and TH receptors (TRα, TRβ) and endothelial nitric oxide synthase (eNOS) expression. Methods: Male Wistar rats (~350g)(n=11-16/group) were divided into four groups: Sham-operated (SHAM), infarcted (AMI), sham-operated + TH (SHAMT) and infarcted + TH (AMIT). During 12 days, the animals received T3 and T4 (2 and 8µg/100g/day) by gavage. After, the rats were submitted to echocardiographic analysis. The aorta was collected to molecular analysis. Statistical analyses: two-way ANOVA with Student-Newman-Keuls post test. Results: The vascular endothelial growth factor, hypoxia-inducible factor 1α, TRα and TRβ receptors expression increased in AMIT compared to AMI. The reactive oxygen species production, NADPH oxidase activity and eNOS expression decreased in AMI compared with SHAMT, while there is no deference between AMIT and AMI. Conclusion: The TH presented an action over angiogenesis and TRα and TRβ expression on peripheral vasculature in a post-AMI period. These may indicate an improvement in angiogenesis and a better responsiveness of peripheral vasculature to HT.

Ethics Committee number: 23262
Financial support: FAPERGS, CNPq
E-mail: vanessa_ro994@hotmail.com