status (GA + AA vs. AA). The heart rate variability was obtained into spectral analysis variables including low (LF) and high frequencies (HF) and LF/HF ratio (n = 87). Flow-mediated dilation was performed after 30 days (n = 140). Clinical follow-up (n = 331) was carried out until two years after STEMI and the primary endpoint consisted of fatal and non-fatal myocardial infarction, unstable angina with hospitalization and cardiac sudden death. Results: In ANCOVA analysis adjusted for sex and age, A-allele carriers showed a decreased flow-mediated dilation [6.13 (7.61) vs 7.29 (6.70); p = 0.025], an increased sympathetic activity at first 24 h [LF/HF 2.29 (3.73) vs 1.55 (2.40); p = 0.026], and it persists higher between first 24 h and fifth day [DeltaLF/HF -0.07 (3.58) vs -0.83 (2.62); p < 0.001]. In the multivariate Cox regression independent predictors for the primary endpoint were: A-allele carriers [Relative Risk (RR) = 1.96; 95% Confidence Interval (95 CI): 1.33–2.90; p = 0.001], arterial hypertension (RR = 2.67; 95 CI: 1.59–4.51; p < 0.001), age (RR = 1.03; 95 CI: 1.01–1.05; p = 0.002), glycemia at fifth day (RR = 1.01; 95 CI: 1.00–1.01; p < 0.001) and simvastatin use in the acute phase (RR = 0.61; 95 CI: 0.39–0.94; p = 0.024). Conclusions: The presence of the A allele at nNOS gene rs41279190 sequence is associated with an impaired endothelial function, increased sympathetic tone and a higher incidence of recurrent cardiovascular events after STEMI.

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A40784
Peri-infarct zone characterized by cardiac magnetic resonance imaging is directly associated with the inflammatory activity during acute phase myocardial infarction
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Introduction: Increased systemic inflammatory activity (SIA) during acute phase of myocardial infarction (MI) is directly associated with the incidence of lethal ventricular arrhythmias and sudden cardiac death. Similarly, the extension of the peri-infarct zone (PIZ), as characterized by cardiac magnetic resonance imaging (CMRI), is associated with the presence of substrate for generation of ventricular arrhythmias in patients who recently manifested MI. In this context, this study aims to: 1) assess whether there is an association between SIA during the acute phase of MI and the extension of PIZ; 2) assess whether the emergence of coronary microvascular obstruction, estimated by both CMRI and coronary angiography, is one of connecting elements between the SIA and the PIZ; and 3) whether a relationship exists between the extent of PIZ and the inflammatory activity assessed at admission (D1) and at the fifth day post-MI (D5). Thirty days after MI, CMRI was performed to quantify the PIZ and the mass of MI. Results: Between D1 and D5, the relative increases of CRP (6.0 vs. 5.6-fold, p = 0.022), IL-2 (3.6 vs. 3.4-fold, p = 0.04) and TNF-α (3.9 vs. 4.6-fold, p = 0.001) were higher in patients with PIZ above the median value (9.98 g) as compared with their counterparts. Plasma CRP, IL-2 and TNF-α at D5 and their respective change from D1 to D5 (delta) were positively correlated with the extent of PIZ (PCR-D5 r = 0.69, p < 0.0001; PCR-delta r = 0.7, p < 0.0001; IL-2-D5, r = 0.5, p < 0.0001; IL-2-delta, r = 0.6, p < 0.0001; TNF-α-D5, r = 0.5, p < 0.0001; TNF-α-delta, r = 0.4, p = 0.0001). These correlations remained significant after adjustment for age, gender, MI mass and the respective value of these inflammatory mediators assessed at D1. Conclusion: The raise of the SIA during the acute phase of MI is directly related to the generation of PIZ. This association should be considered among the potential adverse effects of excessive increase of AIs during the acute phase of MI.

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A40820
The simvastatin effect on acute inflammatory response during ST elevation myocardial infarction
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Introduction: Following ST Elevation Myocardial Infarction (STEMI), the ischemic injury motivates an inflammatory response, which is a determinant for myocardial remodeling and mortality. Statin treatment has shown to attenuate inflammatory response in individuals with hypercholesterolemia and with unstable angina. It is unknown if anti-inflammatory effect may overwhelm the extensive necrosis area in STEMI and if it is influenced by the statin therapy. Methods: We evaluated 247 patients admitted in the first 24 h after STEMI. Blood samples were taken at admission and at the fifth day after STEMI. In a subgroup, blood samples were daily taken for seven days to determine the plasma C-reactive protein (CRP). This subgroup was submitted to nuclear magnetic resonance imaging (MRI) with late enhancement technique to determine the size of STEMI area. Results: We found a weak but significant correlation between the CRP variation from admission to the fifth day after STEMI and the peak CK-MB (r = 0.19; p = 0.005). We did not find correlation between STEMI mass and CRP change in the subgroup of patients submitted to MRI (n = 40). Patients were classified in four groups: those who were using statins prior to and during MI (SS), statins prior to but not during MI (SN), no statin prior to but during MI (NS), and no statin prior to nor during MI (NN). Statins users presented a trend to lower CRP values as compared with those without this treatment before the MI (NN: 1.0 (0.4–1.5) vs NS: 1.0 (0.3–2.8) vs SS: 0.5 (0.3–1.0) vs SN: 0.6 (0.4–1.0) mg/dL; p = 0.08). By the fifth day, CRP was significantly higher in the SN (18.1 (16.1–23.2) mg/dL) as compared with other groups (NN: 10.5 (9.3–13.2) vs NS: 2.9 (1.5–4.5) vs SS: 1.1 (0.8–2.4) mg/dL; p < 0.0001). At admission, CRP in the NN group was lower than in the SN group (p < 0.0001), but higher than the NS and SS groups (p < 0.0001). Conclusion: The inflammatory response, estimated by CRP, is little or not influenced by myocardial infarction extension inferred by CK–MB peak or MRI. The statin withdrawal during STEMI provokes a rebound inflammatory effect. In contrast, prior use of statin magnifies the attenuation of the inflammatory response.

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A40810
Periportal fat and association with metabolic risk factors:
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Introduction: Perirenal fat (PRF) is associated with cardiovascular disease risk factors. Gender differences in the correlations of cardiovascular disease risk factors and PRF in the Brazilian population are lacking. Methods: Cross-sectional study with 101 (50.49% men; mean age 56.5 ± 18, range 19–74 years) drawn from the Uberlândia Heart Study underwent ultrasonography assessment of abdominal adipose. For the perirenal fat, a 3.5 MHz transducer was measured in the middle third of the right kidney, with the transducer positioned at the axillary midline. The exams were always performed by the same examiner. The PRF thickness was examined in relation to waist circumference, blood pressure and metabolic risk factors. Results: The PRF was significatively associated with the levels of gamma-GT (p < 0.05, r = 0.08), fasting plasma glucose (p < 0.05, r = 0.07), waist circumference (p < 0.05, r = 0.10), and metabolic syndrome (p < 0.001, r = 0.38) in men, and with the levels of fasting plasma glucose (p < 0.05, in women. Conclusion: The PRF was correlated with most cardiovascular risk factors in men and only in glucose at the women.

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A40811 Prevalence of atherosclerosis risk factors and metabolic syndrome: The Uberlândia Heart Study

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Introduction: Ectopic visceral fat (VF) and subcutaneous (SCF) fat are associated with cardiovascular risk factors. Gender differences in the correlations of cardiovascular disease risk factors and ectopic fat in the Brazilian population are still lacking. Methods: Cross-sectional study with 101 volunteers (50.49% men; mean age 56.5 ± 18, range 19–74 years) drawn from the Uberlândia Heart Study (UHS). The volunteers were examined in relation to physical examination and laboratory. Results: The mean age of the study sample was 48 W and 52 M years, and 48.5% were women, 40.2% was hypertensive, 39.3% was obese, 61.8% had abdominal obesity, 32% had hypertriglyceridemia, 33.2% low HDL-C and high LDL-C, 40.2% high total cholesterol, 33.2% high non-HDL-C, 22.7% mixed dyslipidemia, 20.2% impaired fasting glucose and 41.1% had MetS. Conclusion: The UHS study reported a high prevalence of MetS and risk factors.

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A40812 Ectopic adiposopathy and association with atherosclerosis risk factors: The Uberlândia Heart Study

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Introduction: Ectopic visceral fat (VF) and subcutaneous (SCF) fat are associated with cardiovascular disease risk factors. Gender differences in the correlations of cardiovascular disease risk factors and ectopic fat in the Brazilian population are still lacking. Methods: Cross-sectional study with 101 volunteers (50.49% men; mean age 56.5 ± 18, range 19–74 years) drawn from the Uberlândia Heart Study underwent ultrasonography assessment of abdominal visceral adipose tissue with convex transducer of 3.5 MHz of frequency. The thickness of visceral fat was ultrasonographically measured by the distance between the inner face of the abdominal muscle and the posterior face of abdominal aorta, 1 cm above the umbilicus. The subcutaneous fat thickness was measured with a 7.5 MHz linear transducer transversely positioned 1 cm above the umbilical scar. The exams were always performed by the same examiner. EVF volumes were examined in relation to waist circumference, blood pressure and metabolic risk factors. Results: The VF was significantly associated with the levels of triglycerides (p < 0.01, r = 0.10), HDL-cholesterol (p < 0.005, r = 0.15), total cholesterol (p < 0.01, r = 0.10), waist circumference (p < 0.001, r = 0.43), systolic blood pressure (p < 0.001, r = 0.41) and diastolic blood pressure (p < 0.001, r = 0.32) in women, and with the levels of triglycerides (p < 0.002, r = 0.14), HDL-cholesterol (p < 0.032, r = 0.07), glucose (p < 0.001, r = 0.15), ALT (p < 0.008, r = 0.12), gamma-GT (p < 0.001, r = 0.30), waist circumference (p < 0.001, r = 0.52), systolic blood pressure (p < 0.001, r = 0.32) and diastolic blood pressure (p < 0.001, r = 0.26) in men. SCF was significantly associated with the levels of triglycerides (p < 0.01, r = 0.34), LDL-cholesterol (p < 0.001, r = 0.36), total cholesterol (p < 0.05, r = 0.36), waist circumference (p < 0.0001, r = 0.62), systolic and diastolic blood pressure (p < 0.05, r = 0.34) in women, and with the waist circumference (p < 0.001, r = 0.065) and MetS (p < 0.05, r = 0.11) in men. Conclusion: The VF and SCF were correlated with most cardiovascular risk factors in both genders.

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A40813 The impact of systemic inflammatory activity in the predictive value of the risk factors for atherosclerotic disease in primary prevention setting

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Introduction: A high cost-effectiveness has restricted the use of a thorough assessment of cardiovascular risk biomarkers to estimate cardiovascular risk in primary prevention, particularly in low-income populations. In this context, the development of screening tests has been pursued as a way to provide feasibility. Our hypothesis is that the measurement of plasma C-reactive protein (CRP) can be used in this setting and may help to select individuals in whom a detailed assessment of risk factors is worthwhile. Methods: Asymptomatic healthy individuals (n = 320; 19–77 years old) were separated in groups according to the plasma CRP as <0.1 mg/dL (0.00–0.96) or ≥0.1 mg/dL (0.10–3.74). A careful clinical examination was followed by plasma biochemical analyses and carotid intima–media thickness (cIMT) measurement. The presence of cIMT ≥0.90 mm was considered as the endpoint in the multivariable binary logistic regression models used to evaluate the association between cIMT across CRP and levels of metabolic or anthropometrics parameters. ROC curves were used to compare the predictive value of the atherosclerotic cardiovascular disease (ASCVD) risk algorithm in the two groups. Results: The following risk factors were associated with increased cIMT in high CRP group: age (odds ratio: 1.10; 95% confidence interval (CI): 1.05–1.15; p = 0.0001), male gender (odds ratio: 5.08; 95% CI: 1.9–13.7; p = 0.004), systolic blood pressure (odds ratio: 1.04; 95% CI: 1.01–1.07; p = 0.013), Non-high-density lipoprotein cholesterol (odds ratio: 1.02; 95% CI: 1.00–1.04; p = 0.038), Low-density lipoprotein cholesterol (odds ratio: 1.02; 95% CI: 1.00–1.04;