Role of tamsulosin in recovery from thioacetamide-induced subchronic liver damage in a Wistar rat model

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Introduction and Objectives: The liver is one of the most important organs in the organism due to its multifunctionality. For this reason, any damage affecting this organ can promote a systemic imbalance, starting from the formation of hepatic fibrosis to encephalopathy due to the increase of ammonium. This study aimed to evaluate the treatment with tamsulosin in the recovery of liver damage in a Wistar rat model.

Material and Methods: Induction of liver damage was by thioacetamide for five weeks. After induction, 5 groups (n=6) were formed: 1) cirrhotic, 2) tamsulosin 11 μg/kg, 3) tamsulosin 93 μg/kg, 4) vehicle and 5) intact. For the determination of liver damage, biochemical tests were performed. For tissue evaluation, H/E and Syrian red staining were performed, and immunohistochemistry NF-KB as an inflammatory marker. Biochemical and morphological tests were correlated with the degree of locomotor activity. The trial was approved by the research ethics committee.

Results: Rats treated with tamsulosin showed a significant improvement in weight recovery and locomotor activity due to decreased serum ammonium, about intact and vehicle. The 11 μg/kg dose of tamsulosin presented better results in the histological analyses since a greater recovery of the hepatic architecture was observed with a decrease in fibrosis and a decrease in NF-KB activation.

Conclusion: The use of tamsulosin at low doses can be considered a therapeutic option for the recovery of liver damage; however, further trials and tests are required to support its efficiency in patients.

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Hepatic MIR-122-3P, MIR-140-5P and MIR-148B-5P expressions are correlated with cytokeratin-18 serum levels in MAFLD

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Introduction and Objectives: This study aimed to investigate the expression and correlation of miR-140-5p, miR-148-5p and miR-122-3p in the liver with circulating levels of CK-18, APOB, IL-6, IL-32, TNF-α of patients with and without MAFLD who underwent laparoscopic cholecystectomy.

Material and methods: Cross-sectional study in patients scheduled for elective cholecystectomy, from whom anthropometric and biochemical variables, blood samples and liver biopsy were obtained with prior signed informed consent. A qRT-PCR assay was performed from the liver biopsies RNA, to determine the microRNAs expression levels. ELISA assay was used to measure circulating levels of CK-18, APOB, IL-6, IL-32, TNF-α. The patients were classified according to the histological report as control group and MAFLD.

Results: Circulating plasma levels of CK-18 showed a significant difference (p=0.001) between the control (46.5pg/mL) and MAFLD (230.2pg/mL) groups; the rest of the explored markers showed no difference. The results show a very strong correlation between, miR-122-3p (rho= 0.071 p= 0.001) and CK-18 levels, while with miR-140-5p (rho= 0.564, p= 0.023) and hsa-miR-148b-5p (rho = 0.689, p= 0.003) are strong.

Discussion: We show that the expression of the microRNAs studied is related to CK-18 circulating levels in patients with MAFLD, which makes these potential molecules biomarkers.

Conclusion: There is a very strong correlation between hepatic expression levels of miR-122-3p, miR-140-5P and miR-148-5P and circulating levels of CK-18 in patients with MAFLD.

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Serum determination of MMP-2 and MMP-9 in chronic liver disease according to alcohol consumption, non-alcoholic fatty liver disease and hepatitis C

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Introduction and Objective: This study aimed to evaluate serum concentration of MMP-2 and -9 in different etiologies of liver disease also according to fibrosis stages.

Materials and methods: Cross-sectional multicentric study, including subjects with no alcoholic fatty liver disease (NAFLD), chronic Hepatitis C (CHC), alcohol cirrhosis (CiOH) and alcoholism (OH), groups with alcohol drinking habits were classified according to OMS criteria, with clinical and biochemical evidence of alcoholic liver disease (ALD). Transitional elastography (Fibroscan) was performed in NAFLD and CHC, considering mild fibrosis (FL: F0, F1, F2) and severe fibrosis (FA: F3, F4). As controls, subjects without alcohol consumption (CT) were recruited. Multiplex®-MERCK© was used for MMP-2 and -9 quantification. Statistical analysis was performed by Mann Whitney-U test, p<0.05, with SPSS V.22.

Results: The groups included were: 27 NAFLD (mild fibrosis: F0, F1, F2), 36 NAFLD (severe fibrosis: F3, F4), 48 CHC (mild fibrosis: F0, F1, F2), 54 CHC (severe fibrosis: F3, F4), 45 (CiOH), 99 (OH), and 138