cognitive parameters, obtaining higher Discrimination Index than the ND group in test novel object recognition (NOR).

Discussion: Supplementation with nopal or cocoa has been shown to reduce alterations caused by a diet high in fat and sugar; however, the simultaneous supplementation proposed in this project induced more noticeable benefits, being similar to those achieved with a switch from HF diet to ND diet.

Conclusions: MexTHER supplementation is a potential strategy for the treatment of diseases associated with excessive consumption of fat and sugars, such as MAFLD.

The authors declare that there is no conflict of interest.

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EVALUATION OF THE HEPATOPROTECTOR EFFECT OF A SUPPLEMENT WITH CURCUMA LONGA AGAINST REPERFUSION ISCHEMIA DAMAGE IN AN EXPERIMENTAL MODEL IN WISTAR RATS

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Introduction and Objectives: Liver transplantation (LT) is the treatment for end-stage liver disease that may present graft rejection. Conditioning with natural products has shown great therapeutic utility, specifically against ischemia-reperfusion (IR). Curcumin has shown protective activity, which is why it is proposed to evaluate whether curcumin (AGROVITAE-UANL) reduces IR liver damage.

Material and methods: For thin layer chromatography, curcumin was started in 0.1% methanol using Si-60GF254 silica gel and chloroform: methanol (95: 5). To verify the presence of 3 curcuminoids, delay factors (Rf) equal to the curcumin standard (Sigma-Aldrich) were detected. For the 70% partial IR liver damage model, a midline laparotomy (L) was performed, the liver was dissected, the hepatic hilum clamped for 1 hour of IR and subsequent sacrificed by exsanguination. 4 groups were established: Sham (3% Tween 20; 500 μL x 3 days; L); IR (3% Tween 20; 500 μL x 3 days; L + IR); SIGMA + IR (3% Tween 20; curcumin 200 mg / kg x 3 days; L + IR); AGROVITAE+IR (3% Tween 20; curcumin 200 mg / kg x 3 days; L+IR). ALT, AST, LDH, FA, BIL, PT, ALB, MDA and Total Antioxidants (AOT) were quantified by UV-Vis. NF-kβ and MPO were evaluated by RT-qPCR. The protocol approved by the ethics committee with registration PI20-00002.

Results: The Rf of 3 curcuminoids was calculated: Curcumin (0.80), Demethoxycurcumin (0.69) and Bisdemethoxycurcumin (0.62). In the damage model, a significant increase in ALT, AST and LDH was achieved and a hepatoprotective effect against IR damage due to decreases in liver enzymes (Figure), there was no change in the rest of the markers.

No significant difference was found in the oxidative stress markers MDA and AOT and in the gene expression of NF-kβ and MPO associated with IR.

Discussion: Reyes et. al (2014) reported the presence of the 3 curcuminoids and their Rf, which agrees with our results. Wang et al. (2017) reported a decrease in ALT and AST values in the groups treated with curcumin in a partial IR model, which is consistent with this study. Lintz et al. (2017) reported in a partial IR model that LDH may not be affected, this contrasts with our results; however, in the curcumin groups, no significant difference was observed against IR. Zabala et al. (2019) reported elevation of ALT and AST that agrees with what was obtained in this study. Tinsay et al. (2014) reported that in IR, there was no effect on synthesis and cholestasis markers, as in this study, this can be explained because the damage produced is cell lysis. Regarding the non-difference in the gene expression of NF-kβ and MPO, other authors reported that the regulation of inflammatory response genes would have an effect at longer reperfusion times (3, 6, 12 and 24h), in hepatic partial IR models.

Conclusions: The presence of the 3 curcuminoids was confirmed in AGROVITAE-UANL. The IR damage model was effective in increasing ALT, AST, and LDH. A hepatoprotective effect of AGROVITAE-UANL, against IR by decreasing ALT and AST. No effect was observed on liver synthesis markers or cholestasis, so the damage was only associated with cell lysis. There was also no effect on MDA, AOT markers and inflammatory response genes at the established IR times, ruling out these pathways as possible mechanisms of action.

The authors declare that there is no conflict of interest.

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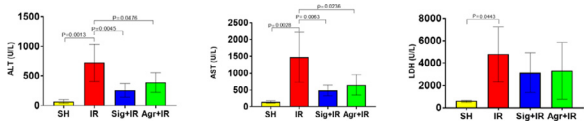

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CHEMOSENSITIZING EFFECTS OF GDF11 IN HUMAN HEPATOCELLULAR CARCINOMA CELLS

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Introduction and Objectives: Hepatocellular carcinoma (HCC) ranks as the second leading cause of cancer death globally; this neoplasm accounts for approximately 90% of liver cancers, and about 850,000 new cases are reported annually. Several factors increase the likelihood of developing HCC, such as excessive alcohol consumption, hepatitis B and C virus infection, metabolic syndrome, and a diet high in lipids and cholesterol. The chronic lesions that the liver can suffer due to the aggression of these factors usually generate lower grade pathologies such as fatty liver, hepatitis, and cirrhosis, which can evolve into HCC. In 2019 Gerardo-Ramirez and collaborators from our group reported the ability of GDF11 to subtract aggressiveness to several HCC-derived cell lines HCC (Huh7, Hep3B, SNU-182, Hepa 1-6 and HepG2); they found that GDF11 reduced proliferation, metastatic capacity, colony, and spheroid formation and invasiveness in those cell lines. Findings by Gerardo-Ramirez *et al.* (2019) identified transcriptional repression of cyclins D1 and A and overexpression of p27. Additionally, an increase in the expression of epithelial markers E-