

Does Alcohol Affect Liver and Kidney Cells?

Authors: Kathryn Hamilton David Gamble Ryan Gomez Melissa Horne Sean Cooper

Published Date: 09-07-2016

University of Central Arkansas

School of Computer Science

Recently, enzymes in liver and kidney cells blocked delivery of urate crystals to the basal ganglia, thereby blocking inflammation.

Hybrid debridement surgery which created two-stage inflammation with immediate positive results was used to determine the effect of ethanol on liver and kidney cells.

Primary liver inflammation followed stress or trauma, and was regulated by an enzyme, IL-1 β , but if it was simultaneously accompanied by ethanol, toxicity was avoided. This study is still in the research stages.

These negative effects of ethanol resulted from iatrogenic stress (i.e. administration of medicine) rather than due to IL-1 β 's impact on pathogenesis of liver inflammation. It has recently been suggested that reactive oxygen species (ROS) introduced by the liver tissue in response to soluble urate are one possible mediators of omega-6 fatty acid metabolism, but this study discovered that fatty acid metabolism had no impact on inflammation within the liver at this point in time. So, R2 is an important mediator of omega-6 fatty acid metabolism.

The second study also was based on treatment with ethanol (i.e. ethanol reduction in urinary levels) with vitamin D to see if liver inflammation was a consequence of liver fat metabolism. This kind of research has not yet been published, but it is available on PubMed and Open Access Database for Science (ABS).

To summarize the study so far:

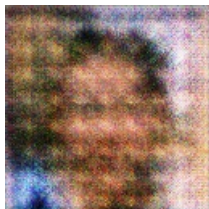
Cells in the liver and kidney tissues were exposed to oxidative stress and iatrogenic stress (surgery and consumption of ethanol), which resulted in injury or injury resulting in hepatorenal injury which could lead to cirrhosis of the liver. Irrigation of iatrogenic stress-producing drugs to which the cells were exposed (drinking ethanol), not only resulted in liver inflammation but also toxicity of non-alcoholic fatty liver.

The study also indicated that liver fat metabolism was not impacting on liver inflammation and that first-line treatment with ethanol only resulted in benign liver tissue.

Thus, ethanol detoxification from the liver is not the cause of liver inflammation, at least right now. Also, it is unknown whether the liver fat metabolism process can affect inflammation via lipid metabolism, but this study did not incorporate this possibility.

Now this is the fourth study that shows that ethanol treatment does not lead to serious toxicity in the liver.

My next step is to determine if inflammation damages genes responsible for liver cell regulation and not the fatty acid metabolism of the liver. For any of you who have chronic liver disease, or worse, cirrhosis, all of you, I hope that this research can be applied to prevent chronic liver diseases and to help people with liver diseases.



A Brown And White Horse Standing In A Field