Reviewer's report

Title: The protective effect of VSL#3 on intestinal permeability in a rat model of alcoholic liver disease

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Reviewer: akif altanbas

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Dear Editor,

Chang et al. declared that they aimed to investigate the pathogenetic role of gut – liver axis after acute alcohol administration in the alcohol related liver injury, and the protective role of a probiotic mixture (VSL#3) and glutamin (an essential amino acid resulted in intestinal mucosal atrophy with lacking).

To reach their aim, they administered alcohol via nasogastric tube to six different groups of rat. Control group did not administered alcohol. To investigate the protective role of VSL#3 and glutamin, they also administered VSL#3 and glutamin seperately in to two groups, and to define their sinerjistic affect, both in one group. And also, heat-killed VSL#3 and plasebo administered in another two seperately groups. The investigated agents were all administered 30 min before alcohol administration.

Alcohol related high small intestinal distrubtion was shown via electron-microscopically, and the reduced mRNA of tight junction proteins by using PCR and western blot.

And then, TNFalpha, endotoxin, ALT and AST levels in serum were all found to be the highest level in only alcohol and plasebo groups, whereas the lowest level in VSL#3 and glutamin combined group. And also, the levels of TNFalpha, endotoxin, ALT and AST levels in serum were lower in the VSL#3, and glutamin and heat-killed VSL#3 treated groups than alcohol group.

Minor essential revision

Even though the protocol of alcohol administration preffered in this study usually resulted in alcohol related liver injury, the invetigators did not check out any spesific findings of liver injury. So, they can only claim that VSL# and glutamin may be protective role of acute alcohol consumption related intestinal injury, not of liver injury. And also, it can not be understood why the investigators also studied the severity of injury in the same rats.

In that reason, the authors should remove the words of liver injury from the text. Instead, they pointed out that both VSL# and glutamin have protective role of acute alcohol consumption related intestinal injury.

Level of interest: An article whose findings are important to those with closely related research interests
Quality of written English: Acceptable

Statistical review: No, the manuscript does not need to be seen by a statistician.

Declaration of competing interests:

I declare that I have no competing interests