Reviewer's report

Title: Jejunal microvilli atrophy and reduced nutrient transport in rats with advanced liver cirrhosis: improvement by Insulin-like Growth Factor I (IGF-I)

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Reviewer: Jordi J Muntané

Reviewer's report:

General

The manuscript entitled "Jejunal microvilli atrophy and reduced nutrient transport in rats with advanced liver cirrhosis: improvement by insulin-like growth factor I (IGF-I)" by Castilla-Cortazar et al shows that the experimental induction of cirrhosis is accompanied with an atrophy of intestinal microvilli and altered absorption of sugar and aminoacids. All these changes are improved by IGF-I treatment.

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Major Compulsory Revisions (that the author must respond to before a decision on publication can be reached)

1) The present study is similar to other previously publish by the same group (Pascual et al. Am J Physiol Gastrointest Liver Physiol 2000;279:G319-G324). In this previous study, cirrhosis was induced by CCl4 and phenobarbital during 11 weeks. In the present study if the disturbances of aa (aminoacid) uptake was related to the atrophy of microvilli we could expect a lower values of aa uptake (figure 2) in comparison with those obtained in the previous study. In other words, there are no difference between aa uptake from BBMVs obtained from rats with cirrhosis or advanced cirrhosis. The beneficial effect of IGF in both groups are similar. Could the authors explain this lack of differences on aa uptake between those both groups? This is important because the authors claim that a relationship exist between an atrophy of microvilli and the decreased aa uptake. An atrophy of microvilli has not been observed by the same group (Castilla et al. Am J Physiol 1999:276;G37-G42)in compensated cirrhotic rats.

2) The authors should include in the manuscript some data about the effect of IGF on ascites and liver markers in advanced cirrhotic rats.

3) Authors indicate that sodium-potasium-ATPase activity was twenty fold smaller after BBMV isolation compared to that observed in homogenate (lines 1-4 from bottom, preparation of BBMV). As sodium gradient generation has been neccessary to detect differences between untreated cirrhotic animals and control (first paragraph in results section) I would appreciate if authors could indicate if the lost of sodium-potasium ATPase during the isolation of BBMV could affect the results obtained.

4) Authors should explain the reason by which a pool of BBMV from 10 animals has been used to carry out the kinetic studies of D-galactose and aa uptake. In this study is not possible to evaluate the differential animals response to cirrhosis in presence or not of IGF.

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Minor Essential Revisions (such as missing labels on figures, or the wrong use of a term, which the author can be trusted to correct)
1) Authors should clearly identify the symbol used in figure 1 and 2. In the legend of figure 2, authors indicate statistical significances between groups. Nevertheless, the corresponding symbols are not presented in the figure.

Discretionary Revisions (which the author can choose to ignore)

1) It could be useful for the study the measurement of TNF-alfa in serum from rats with advanced cirrhosis treated or not with IGF. It could be possible that the recovery of malnutrition induced by cirrhosis during IGF treatment might be also related to a regulation of TNF-alfa by IGF-I. TNF-alfa is a cytokine involved in malnutrition during liver diseases.

What next?: Unable to decide on acceptance or rejection until the authors have responded to the major compulsory revisions

Level of interest: An article of importance in its field

Quality of written English: Acceptable

Statistical review: No

Declaration of competing interests:

None