

**Intestinal Permeability, Zonulin and Liver Cirrhosis**

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Intestinal permeability (IP) alterations were reported in Liver Cirrhosis (LC) patients, mainly in de-compensated stage and in alcohol-related chronic liver disease. The role of Zonulin (Z), a newly described protein claimed to be an IP regulator, is being investigated in several pathologic conditions in which IP alterations are shown, such as celiac disease and type 1 diabetes. Aim of this study was to investigate, and correlate, IP and Z values in a large number of patients affected by LC.

Subjects: 83 consecutive outpatients with LC (54 males, 29 females, median age=57, range 26-77) of whom 48 were HCV positive, 8 other viral aetiology, 9 alcoholics, 8 HCV and alcohol, 10 concomitant diabetes, were enrolled; 73 had a well-compensated and 10 had a de-compensated liver disease. IP was studied by oral administration of a LA/MA test and the two sugar probes detected in urine by HPAEC-Dionex. Z was evaluated in serum by a sandwich ELISA.

IP overall values in the LC patients resulted  $0.032 \pm 0.065$  (mean $\pm$ SD), which was significantly higher than the mean obtained in 120 controls with a  $p < 0.05$  (**DIFFICILE DA CREDERE, IN BASE AI RISULTATI OTTENUTI E RIPORTATI NELL'ABSTRACT SU HCV, IN CUI IL CUTOFF DEI SANI E' 0.028. A MAGGIOR RAGIONE E' POCO CREDIBILE IN BASE AL CUTOFF RIPORTATO IN QUESTO ABSTRACT DI 0.03 CHE E' IDENTICO ALLA MEDIA TROVATA NEI CIRROTICI**). Z overall values in the LC patients resulted  $2.19 \pm 3.28$  ng/mg protein (mean $\pm$ SD), which was significantly higher than the mean obtained in 45 controls with a  $p < 0.05$ . 28.9% patients had values  $> 0,03$  (the normal range cut off for IP index) and 83.3% patients had values  $> 0,6$  ng/mg protein (the normal range cut off for Z values). IP and Z values were independent from the stage of disease. There was, however, no significant correlation between IP and Z values.

Our data confirm the previous report of altered IP in LC patients (**QUESTA CONCLUSIONE A ME PARE INCORRETTA, VISTO CHE NON CI SONO GROSSE DIFFERENZE TRA MEDIA IP E CUTOFF IN NORMALI**), and demonstrate an impairment of Z secretion in this pathological condition. The lack of correlation between IP and Z is surprising (**NON DIREI; LA VERA SORPRESA E' CHE, CONTRARIAMENTE A QUANTO RIPORTATO IN PRECEDENZA, NON CI SONO CAMBIAMENTI GROSSI DI IP, MENTRE CI SONO SICURAMENTE CAMBIAMENTI DI Z**); not much is, however, yet known on this protein claimed to be an IP regulator in type 1 diabetes and celiac disease.

*Valori di Permeabilità Intestinale e Zonulina nella Cirrosi Epatica*