

## Effects of Oral L-Carnitine on Liver Functions after Trans arterial Chemoembolization in Hepatocellular Carcinoma Patients

**Authors :** Ali Kassem, Aly Taha, Abeer Hassan, Kazuhide Higuchi

**Abstract :** Introduction: Trans arterial chemoembolization (TACE) for hepatocellular carcinoma (HCC) is usually followed by hepatic dysfunction that limits its efficacy. L-carnitine is recently studied as hepatoprotective agent. Our aim is to evaluate the L-carnitine effects against the deterioration of liver functions after TACE. Method: 53 patients with intermediate stage HCC were assigned into two groups; L-carnitine group (26 patients) who received L-carnitine 300 mg tablet twice daily from 2 weeks before to 12 weeks after TACE and control group (27 patients) without L-carnitine therapy. 28 of studied patients received branched chain amino acids granules. Results: There were significant differences between L-carnitine Vs. control group in mean serum albumin change from baseline to 1 week and 4 weeks after TACE ( $p < 0.05$ ). L-Carnitine maintained Child-Pugh score at 1 week after TACE and exhibited improvement at 4 weeks after TACE ( $p < 0.01$  Vs 1 week after TACE). Control group has significant Child-Pugh score deterioration from baseline to 1 week after TACE ( $p < 0.05$ ) and 12 weeks after TACE ( $p < 0.05$ ). There were significant differences between L-carnitine and control groups in mean Child-Pugh score change from baseline to 4 weeks ( $p < 0.05$ ) and 12 weeks after TACE ( $p < 0.05$ ). L-carnitine displayed improvement in (PT) from baseline to 1 week, 4 w ( $p < 0.05$ ) and 12 weeks after TACE. PT in control group declined less than baseline along all follow up intervals. Total bilirubin in L-carnitine group decreased at 1 week post TACE while in control group, it significantly increased at 1 week ( $p = 0.01$ ). ALT and C-reactive protein elevation were suppressed at 1 week after TACE in Lcarnitine group. The hepatoprotective effects of L-carnitine were enhanced by concomitant use of branched chain amino acids. Conclusion: L-carnitine and BCAA combination therapy offer a novel supportive strategy after TACE in HCC patients.

**Keywords :** hepatocellular carcinoma, L-carnitine, liver functions , trans-arterial embolization

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