

## SHC 33 . THE RESTORATIVE EFFECT OF ASCORBIC ACID ON LIVER INJURY INDUCED BY ASYMMETRIC DIMETHYLARGININE

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The liver has a very important role in the synthesis and elimination of asymmetrical dimethylarginine (ADMA), which is a methylated derivative of arginine. The relation of ADMA, which is a nitric oxide synthase inhibitor, with liver disease is documented; however if it is directly related with liver injury is unknown as of yet.

Our aim in this study is to determine if ADMA has a direct effect on liver injury, if so; to evaluate if ascorbic acid (AA) reduces the extent of damage.

The study consisted of three groups comprised of 10 rats each. 1) control group, 2) ADMA (2 mg/kg/day) receiving group, 3) ADMA+AA (50 mg/kg/day) receiving group. The rats were sacrificed on the 10th day, and AST, ALT, GGT and ALP activities were measured. The histomorphologic evaluation of the liver was done by the Ishak score system.

When compared to the control group, ALT and ALP activities were found to be higher in only the ADMA group ( $p=0.006$  and  $p=0.041$  respectively). With AA addition, parameters were found to be lower, however statistical significance was not achieved ( $p>0.05$ ). when the control group was compared with the ADMA group; interface hepatitis, confluent necrosis, focal necrosis, histologic activity index, severity of hepatitis ve portal inflammation were all found to be higher in the ADMA group. With the addition of ADMA, although not significant, said histopathologic parameters improved ( $p>0.05$ ).

These results suggest that the increase in plasma ADMA levels had a detrimental effect on liver injury. The lack of significant improvement with AA addition suggested that other factors beside prooxidant factors had an effect on injury.

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