

Effects of Maternal Separation on the Expression of Hepatic Drug-Metabolizing Enzymes

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Abstract

There is an inter-individual variation in the drug response due to different expression and activity of hepatic drug metabolizing enzymes. There is an association between early life stress and many chronic disorders extends during adulthood. It is expected to find effects of Maternal Separation (MS) on the gene expression of liver metabolizing enzymes .

In this study, relative liver weight was calculated, eighteen Balb/c pups were separated from their mothers after birth for four hours daily. Then the gene expression of liver enzymes (*cyp1a1*, *cyp3a11*, *cyp2d9* and *cyp2C29*) have been analyzed by Real-Time PCR .

It has been found that there was no significant change in relative liver weight between control groups and MS groups, however, there was a downregulation in the mRNA expression of liver metabolizing enzymes of MS mice compared to control groups of both males and females. In addition, it was found in this study a sex-based difference in the expression of drug metabolizing enzymes. Hence, it may affect the metabolism and response of drugs .

Keywords: Hepatic drug metabolizing enzymes, Maternal Separation (MS), mRNA.

