ASCORBIC ACID LEVELS IN DIMETHYLNITROSAMINE INDUCED HEPATIC FIBROSIS IN RATS

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ABSTRACT

Hepatic fibrosis was induced in albino rats after administration of dimethylnitrosamine (DMN) intraperitoneally in doses of 1μl (diluted 1:100 with 0.15M NaCl)/100g body weight. The injections were given on the first three consecutive days of each week over a period of 21 days. Treated and control animals were sacrificed on days 7,14 and 21. Ascorbic acid (Vitamin C) levels in blood and liver were estimated by spectrophotometry. There was a significant decrease in ascorbic acid levels both in blood and liver samples of DMN treated animals on 7,14 and 21st day. In both blood and liver samples hydroxyproline levels were also estimated and we noticed an increase upto 4-6 fold level in liver which indicates the increased deposition of collagen in liver marked by hepatic fibrosis. It was reported that ascorbic acid stimulates the formation of large polyribosomes where priming of collagen biosynthesis takes place, followed by rapid enhancement of collagen biosynthesis. The increased utilization of ascorbic acid for the biosynthesis of collagen in fibrosis may contribute to its decreased level. It can be also suggested that increased depot of liver collagen may have an influence in the degradation of ascorbic acid. An additional factor contributing to its low level may be the loss of appetite in the fibrotic animals. Further investigations are being carried out.