

Health Care and Diseases: Disease Control and Diagnosis One Possible Pathway of Abnormal Lipid Metabolism in Collagen-induced Arthritis

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Abstract—Collagen-induced arthritis (CIA) is linked with systemic manifestations including alteration of lipid metabolism. In present study, one possible pathway of altered lipid metabolism is presented. Samples of joint tissue and plasma were collected from CIA and control rats, and levels of lipid components were estimated. Correlation analysis was performed between the level of lipid components and antioxidant enzymes, lactate dehydrogenase (LDH), lipid peroxidation (LP) and cytokines in joint tissue and plasma, respectively. Differentiation between the CIA and control rats was established on the basis of the quantity of lipid components in the joint tissue and plasma, respectively. Positive correlation was observed for all the enzymes vs. lipid components as well as LP vs. lipid components in plasma and joint tissue. Positive correlation was observed between the level of lipid components and enzymes. Negative correlation was observed between the plasma and joint tissue with the level of lipid components. Cytokines levels were also correlated with the level of lipid components and ratio of saturated fatty acids / unsaturated fatty acids in plasma and joint tissue, respectively. Inflammatory activity in CIA rats with synovitis caused a significant change in lipid metabolism. Overall the results show a picture of altered lipid metabolism in CIA. Outcome of this study may be helpful in understanding the lipid metabolism in CIA or RA (rheumatoid arthritis). This study may be useful in the development of new diagnostic method and therapy for RA.