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EFFECT OF BIO-NORMALIZER ON OXIDATIVE STRESS IN IRON-OVERLOADED RATS

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Peritoneal injection of iron sulfate to Wistar rats led to a sharp increase (two-threefold) in the level of "free" iron in the cellular membranes and cytosol of peritoneal macrophages. Iron overload accompanied by the enhancement of lipid peroxidation and oxygen radical release from macrophages. After administration of Bio-normalizer (BN), a functional food produced by Sun O International, Japan, the iron content, TBAR products, and oxygen radical release lowered to normal values. Furthermore, the administration of Bio-normalizer significantly improved some parameters of inflammation. Thus, BN administration diminished the enhanced (by 10-27%) level of neutrophils in peritoneal exudate of iron-overloaded rats to normal value. We suggested that favorable effects of Bio-normalizer on inflammatory processes in iron-overloaded rats are explained by its possessing both chelating and antioxidant properties. Because of this, Bio-normalizer is able to enhance iron excretion and suppress damaging free radical processes induced by iron overload.

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MODULATION OF SP1 AND NFkB BINDING ACTIVITY BY ALUMINIUM IN HeLa CELLS

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Aluminium is considered as a potentially toxic metal, which has been linked to various neurological diseases such as amyotrophic lateral sclerosis, the Parkinsonism dementia, complex of Guam and Alzheimer's disease. Although aluminium is not a redox metal, different studies have shown that cytotoxicity of aluminium in neurological diseases would be link to an oxydative stress. Hovewer, the relationship between aluminium and free radicals still remains unclear. On the other hand, it is now well established that the DNA binding activity of two transcription factors: NFkB and SP1 is regulated by redox control mechanisms. The aim of our study was to investigate if aluminium was able to modulate the DNA binding activity of these two transcription factors. We have shown, by electrophoretic mobility shifft assay, that a three hours incubation of HeLa cells with various concentrations of aluminium sulfate led to an activation of the DNA binding activity of NFkB in a dose dependant way, while DNA binding activity of SP1 was decrease.