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Aqueous extract of Bai-Hu-Tang, a classical Chinese herb formula, prevents LPS fever in rabbits

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Bai-Hu-Tang (BHT) was traditionally used to clear excess heat and promote generation of body fluids. To investigate the effect and mechanism of BHT, the model of fever syndrome of Chinese medicine pattern was imitated by LPS injection i.v. in rabbits, and BHT was gavaged. The results showed that there is no striking impact from Baihu Soup to serum immunoglobulin (IgG, IgA, IgM) and T-AOC in model animals, but SOD was decreased and MDA increased. The pathologic observation in liver tissue and serum biochemical analysis was conducted before and after treatment with the BHT. The results showed that rabbit liver lesion was caused by 15µg/kg LPS strikingly with the levels of serum ALT, AST and Urea increased, while TC was decreased. After treatment with the formula, BHT prevented sudden increase of IL-10, TNF-α, ALT and AST, and liver damage induced by LPS. However, there were no significant changes of other cytokines of IL-2, IL-4, and IFN-γ. BHT also prevented significantly decrease of the percentage of CD⁸⁺ T cells since LPS injection, but there was no change of CD⁴⁺ cells percentage. Comparative analyses of gene expression profile in rabbits' liver were analyzed using Agilent cDNA microarrays. The results demonstrated that genes expression pattern could be clustered into three groups significantly, and there were 606 up-regulated genes and 859 down-regulated genes in model group, and 106 up-regulated genes and 429 down-regulated genes in BHT-prevented group. GO annotation indicated that differentially expressed genes were involved in 24 kinds of physiological activities. Among these processes, metabolic process, catabolic process, biosynthetic process, immune response, and inflammatory process have significant gene expression changes in the course of Qifen Syndrome formation and BHT prevention. In conclusion, BHT played an important role in immunity protection and anti-injury through preventing immunoinflammatory damage by LPS.

Biography

Yan Zuoting has completed his PhD at the age of 44 years from Gansu Agriculture University. He is the Director of master degree candidate, a senior professional Veterinarian. He is good at Chinese traditional veterinary medicine and herbal medicine research. He has published more than 60 papers in reputed journals.

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