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The Inhibition of Acetyl-11-Keto-β-Boswellic Acid on Activated Dendritic Cells in an Imiquimod-Induced Psoriasis Mouse Model and in Vitro

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Psoriasis vulgar is an inflammatory skin disease that is mediated by T cells and dendritic cells which is the most accessible human disease. In this study we aimed to investigate the effects of Acetyl-11-keto-b-boswellic acid (AKBA) on activated dendritic cells using imiquimod (IMQ)-induced psoriasis-like mouse model. The mice treated with IMQ and intragastrically administered 25~100 mg/kg/day of AKBA, 1 mg/kg/day of methotrexate (MTX), or normal saline. The inflammation of IMQ mice skin lesions were evaluated by psoriasis area and severity index (PASI) and pathological staining. The related proteins of TLR7/8 pathways were assessed by western blotting and the quantity of interleukin IL-23, IL-12p40 mRNA were measured by RT-PCR. The levels of DCs were assessed by flow cytometry and cytokines by enzyme linked immunosorbent assay (ELISA). In this study we found that the AKBA and MTX obviously improve the psoriasis-like skin lesions of IMQ mice. Also obviously decreased each score of PASI, and reduced the thickness of epidermis, ameliorated the infiltration of $CD3^+$, $CD11c^+$ cells in skin lesions, decreased the percentage of CD11c+ cells in spleen, suppressed the expression of TLR8 and MYD88, reduced the transcription of IL-23, IL-12p40 mRNA and the secretion of related cytokines. This study inferred that AKBA might be ameliorate psoriasis-like skin lesions of IMQ-induced psoriasis mice by suppressing the function of activated DCs and inhibiting the activation of TLR8 signal pathway.

Biography:

Li Ping was born in 1965, China. She received D.S.A from Beijing University of Traditional Chinese Medicine in 1998. Now she is the deputy director of Beijing Institute of Traditional Chinese Medicine. She is also the director of Beijing Key Laboratory of Clinic and Basic Research with Traditional Chinese Medicine on Psoriasis. Her main research interest is TCM on autoimmune dermatosis and wounds healing.