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Abstract:

Aim of this study was to investigate the immunomodulatory effects of two herbal drugs in rheumatoid arthritis (RA), using Freund's complete in adjuvant arthritis (AA) in rat model. For that purposes we have used two clinically tested Chinese herbal drugs, i.e. Shen Juan Bi pills (SJB, deep brown pills, patent number: L200510040550) were kindly provided by the Jiangsu Chiatai Qingjiang Pharmaceutical Co., Ltd. and Capsules of Total Glucosides of Paeony (TGP), extracted from the root of *Paeonia lactiflora*. : Ningbo Li-Hua Pharmaceutical Co. Ltd. (Batch number: 061201). AA was evaluated by measuring paw swelling. Further the level of serum tumor necrosis factor alpha (TNF- α) and interleukin-1 β (IL-1 β) in rats were measured by enzyme-linked immunosorbent assay (ELISA). Caspase 3 levels and an antiapoptotic Bcl-2 were examined by western blot analysis. The administration of SJB and TGP significantly inhibited the swelling of the adjuvant-non-injected footpaw of AA rats. Both drugs significantly decreased the production of serum TNF- α and IL-1 β . They also significantly decreased the procaspase-3 expression and overproduction of Bcl-2 expression in synovium. In conclusion SJB and TGP possess anti-rheumatic activity by modulating the main immunomodulatory factors while activating caspase-3, which is the key executioner of apoptosis in the immune system and down-regulating the antiapoptotic Bcl-2.

KEY WORDS: TNF- α , IL-1 β , Caspase 3, Bcl-2