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Ex vivo and in vivo effect of Chinese herbal pill Yi Shen Juan Bi (YJB) on experimental arthritis.

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Source

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Abstract

AIM OF THIS STUDY:

Chinese herbal pill Yi Shen Juan Bi (YJB), which is a compound herbal drug, has traditionally been used as an anti-rheumatic drug in Chinese local clinics. Thus, we investigated the therapeutic effect of the YJB in rheumatoid arthritis (RA), using Freund's complete induced adjuvant arthritis (AA) in rat model.

METHODS:

For that purpose, macrophage derived cytokine tumor necrosis factor alpha (TNF- α) and interleukin-1 (IL-1) were measured in ex vivo by enzyme linked immunosorbent assay (ELISA). We also assayed the effect of YJB on peritoneal macrophage derived nitric oxide (NO) in ex vivo by Griess reaction. Prostaglandin E (PGE) in metapodes was assayed by ultraviolet spectrophotometer method. Further synovial Bax level was examined by Western blot analysis.

RESULTS:

YJB significantly decreased the production of peritoneal macrophages derived TNF- α , IL-1 and NO. YJB also significantly decreased prostaglandin E (PGE) and upregulated the Bax expression in AA rat's synovium.

CONCLUSION:

YJB is a potential anti-rheumatic agent targeting the inflammatory and immunomodulatory response of macrophages while down regulating the PGE and up-regulating the pro-apoptotic Bax expression. Such characteristics of YJB on AA may be advantageous to the treatment of clinical rheumatoid arthritis.