RE-09

Curcumin attenuates the expression of intercellular adhesion molecule-1, vascular cell adhesion molecule-1 and cytokines in TNF-α-stimulated human endometriotic stromal cells

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목적: Endometriosis is a chronic gynecological inflammatory disorder in which immune system deregulation and is characterized by growth of endometrial tissue in sites other than the uterine cavity. A number of mediators including cell adhesion molecules such as intercellular adhesion molecule-1 (ICAM-1, CD54) and vascular cell adhesion molecule-1 (VCAM-1, CD106), pro-inflammatory cytokines such as tumor necrosis factor-α (TNF-α), interleukin-1 (IL-1), IL-6 and IL-8, and chemokines such as monocyte chemotactic protein-1 (MCP-1) play a key role in the pathogenesis of endometriosis.

방법: To explore the effect of curcumin on the expression of these critical molecules involved in the pathophysiology of endometriosis in TNF-α-stimulated human ectopic endometrial stromalcells (HEESCs) isolated from women with endometriosis.

결과: Curcumin did not affect HEESCs viability up to a dose of 50 μM. Treatment of HEESCs with curcumin for 48 h significantly inhibited TNF-α-induced proliferation of HEESCs. HEESCs treated with curcumin showed markedly suppressed TNF-α-induced mRNA expression of ICAM-1 and VCAM-1 as assessed by quantitative realtime RT-PCR. Curcumin treatment also significantly decreased the TNF- α-induced cell surface and total protein expression of ICAM-1 and VCAM-1 as examined by flow cytometry, immunofluorescent microscopy and western blot. In addition, treatment of HEESCs with curcumin markedly inhibited TNF-α-induced secretion of IL-6, IL-8 and MCP-1 as analyzed by ELISA.

결론: Curcumin may have a potential therapeutic use for the prevention and treatment of endometriosis