Ciglitizone induces apoptosis in endometrial cancer cell line in PPAR independent pathway

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목적: To determine the growth inhibitory effects of peroxisome proliferator-activated receptor (PPARγ) ligand ciglitizone on endometrial cancer cell growth and evaluate its effect on apoptosis using endometrial cancer cell line.

방법: Human endometrial cancer cell lines were cultured and treated with various concentrations of PPARγ ligand, ciglitizone. Cell proliferation and growth arrest were evaluated by MTS assay and FACS analysis, respectively. The apoptosis induced was analyzed by DNA fragmentation and western blotting. In order to test whether ciglitizone induced growth suppressive effects on cancer cell is PPAR-independent, we treated endometrial cancer cell with ciglitizone and GW9662 (a PPARγ antagonist).

결과: Ciglitizone significantly inhibited the proliferation of endometriual cancer cell lines in dose dependent manner. Cell cycle analysis indicated the increased proportion of cell arrest in sub G1 phase. DNA fragmentation, up regulation of p27, down regulation of (Caspase 3, Bcl2 and Cdk2) and cleavage of PARP revealed apoptic progression. No significant difference was found in cells treated with ciglitizone alone verses cotreated with ciglitizone and GW9662. GW9662 alone did not affect in cell growth arrest. Thus we concluded that growth suppressive effects by ciglitizone may not be dependent upon PPAR expression.

결론: Ciglitizone inhibited growth of endometrial cancer cell lines. Significant induction of apoptosis is associated with regulation of p27 in caspase 3 dependent mechanism. Our findings suggest that growth suppressive effect of ciglitizone was PPAR independent.