MEDICAL THERAPIES AND PHARMACOLOGY

EFFECTS OF THALIDOMIDE ON HUMAN DERMAL FIBROBLASTS?CELL PROLIFERATION?APOPTOSIS GENES, COLLAGEN, AND COLLAGEN METABOLISM

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Background: Excessive scars, usually known as keloids and hypertrophic scars, are skin abnormalities characterized by the aberrant proliferation of fibroblasts and excessive production of extracellular matrix protein during repair of injured skin tissue. Above studies were mostly carried out in tissues from liver cirrhosis and pulmonary fibrosis or animal models, in the aspect of the inhibitory effect and interference pathways of Thalidomide on proinflammatory factor activity. But the effect of Thalidomide on cell proliferation and extracellular matrix of dermal fibroblasts were rarely investigated. Therefore, the present study was undertaken to investigate the inhibitory effect of Thalidomide on cell proliferation and collagen synthesis of Histamine activated fibroblast cells, in order to provide experimental evidence and theoretical foundation for the potential value using Thalidomide as an anti-dermis fibrosis medicine in the prevention treatment and treatment of postoperative scarring and aberrant fibroblasts proliferation diseases.

Objective: To investigate the possible therapeutic effects of Thalidomide on cell proliferation, pro-apoptosis and functional extracellular matrix protein to both of the control and Histamine treated fibroblast, which to reveal the exhibited anti-dermis fibrotic properties of Thalidomide.

Materials and Methods: To investigate the possible therapeutic effects of Thalidomide on cell proliferation, pro-apoptosis and functional extracellular matrix protein to both of the control and Histamine treated fibroblast, which to reveal the exhibited anti-dermis fibrotic properties of Thalidomide.

Results: Thalidomide remarkably inhibite cell proliferation and increased the levels of caspase-3 and BAX mRNA and decreased BCL-2 mRNA on Histamine treated cells. The

inhibition on the expression of Collagen typeI(COL1A1) and TGF-β1 and the regulation of MMP-1/ TIMP-1were more apparently on Histamine-treated cells.

Conclusions: Thalidomide has a positive effect on inhibition of cell proliferation, pro-apoptosis, and anti-collagen deposition on Histamine treated human dermal fibroblast .The results provided the experimental basis for further investigation of anti-dermis fibrosis in vivo.