THE EXPRESSION OF INTEGRIN-LINKED KINASE AND ITS RELATIONSHIP WITH ANGIOGENESIS IN HYPERTROPHIC SCAR (P140)

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**Background:** Integrin-linked kinase (ILK) mediates the signal transduction between cells and ECM. It can regulate cell proliferation, migration, angiogenesis and apoptosis. As one of characteristics of hypertrophic scar is an abundant capillary proliferation, ILK may play an important role in the formation of hypertrophic scar. In this study, we explored the expression of intergrin-linked kinase (ILK) in different stages of scar, as well as its relationship with angiogenesis.

**Methods:** The samples of scar in different stages were collected and divided into three groups, < 6 month scar, 6-12 month scar and > 12 month scar). The expressions of ILK were investigated by qualitative immunohistochemistry, and the expressions of ILK mRNA were investigated with RT-PCR methods. The microvascular endothelial cells (HSMECs) from 1-6 month scar were isolated and cultured in vitro, which were identified with Factor VIII marked by immunofluorescence. The cultured cells were divided into Control group; Empty plasmid group and; ILK cDNA plasmid transfected group. The expressions of Flt-1mRNA and KDR mRNA in VEGF receptor were investigated with RT-PCR. The data were analyzed by ANOVA.

**Results:** Immunohistochemistry showed that ILK expressions mainly distributed in the cells of basal layer of epidermis, fibroblasts and vascular endothelia cells in scar. The expression of ILK mRNA in group of < 6 month scar was significantly higher than those of other groups (F=37.007, P=0.000). The purified MECs showed positive expression of Factor VIII in cytoplasm, but the Factor VIII in negative control group was absent. The expression of ILK mRNA, KDR mRNA and Flt-1 mRNA in group of ILKcDNA was higher than those in other groups (F=87.110, P=0.005; F=11.241, P=0.003; F=18.199, P=0.001).

**Conclusion:** ILK mainly expressed in early stage of scar formation. It might affect the angiogenesis of scar in early stage by regulating the expression of KDR and Flt-1 in HSMECs. It plays important role in early scar formation.