Keratinocyte-fibrin-glue suspension (KFGS) and conventional cultured epithelial sheet grafting (CEA). [German]

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Abstract:

Morphological investigations of dermal reconstitution and epithelial formation using light microscopy after transplantation of cultured keratinocytes onto excised human full thickness thermal wounds were performed. Keratinocyte-Fibrin-Glue-Suspension (KFGS) was compared to conventional cultured epithelial sheet grafting (CEA). Evidence of at least partial integration of allogenic dermis was found despite the immuno-incompatibility of transplanted dermal tissue. After CEA transplantation a uniform flat multilayer epithelium with an undifferentiated dermis without rete ridges was found. The ability of the keratinocytes in KFGS combined with allogenic split thickness donor skin to migrate to the mesenchymal border zone (basement membrane) and form a layered squamous epithelium including the formation of a well organized rate structure even after epifascial excision was shown. The histomorphological findings so far confirm the hypothesis that the KFGS technique is an adequate means for early burn wound closure and resurfacing of third degree burn wounds.