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Autologous Fibroblast Transplant-Filling and Repairing Skin Defects such as Wrinkles, Cavities, and Scars

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Abstract

Skin defects such as wrinkles, cavities, and scars are generated by many different mechanisms including the cavities and wrinkles caused by the normal aging of skin tissues as well as the tissue defects or hypertrophic scars due to inflammation.

Using autologous fibroblast for subcutaneous filling and transplant can supplement and assist aging fibroblasts, increase the secretion of extracellular matrix and fibers, and improve and restore the complete structure of the skin, thereby achieving the effect of treating skin defects, wrinkles, and cavities.

Fibroblasts can secrete both extracellular matrices and metalloproteases, which degrade extracellular matrices; therefore, they control the intricate balance between the generation and degradation of extracellular matrices. Thus, therapies involving fibroblasts can supplement and reactivate the normal wound healing mechanism, allowing the generation and degradation of extracellular matrices to reach equilibrium, thereby reducing scars.

Keywords: autologous fibroblast, cell therapy, skin defect, wrinkle, cavity, scar

自體纖維母細胞移植—皮膚缺陷： 皺紋、凹洞及疤痕之填補及修復

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摘要

皮膚缺陷、皺紋、凹洞及疤痕的產生有許多不同的機轉，包括皮膚組織的正常老化退化造成的凹陷及皺紋，以及發炎反應後所造成的組織缺陷或疤痕增生。

以自體纖維母細胞進行皮下填充與移植可補充及協助老化的纖維母細胞，以增加細胞外基質與纖維的分泌，改善及恢復皮膚的完整結構，達到治療皮膚缺陷、皺紋、凹洞的效果。

由於纖維母細胞不但負責胞外基質的分泌，也會分泌降解胞外基質的金屬蛋白酶(Metalloproteases)，胞外基質生成和降解之間的精細平衡就是由纖維母細胞所調控。因此，自體纖維母細胞的治療可補充及重新啟動正常的傷口癒合機制，讓胞外基質的生成和降解達到平衡以改善疤痕。

關鍵詞：自體纖維母細胞、細胞治療、皮膚缺陷、皺紋、凹洞、疤痕