

Global Spine J 2013; 03(03): 185-192

DOI: 10.1055/s-0033-1349400

Molecular Therapy for Disk Degeneration and Pain

The nucleus pulposus of the intervertebral disk contains high amounts of the proteoglycan aggrecan, which confers the disk with a remarkable ability to resist compression. Other molecules such as collagens and noncollagenous proteins in the extracellular matrix are also essential for function. During disk degeneration, aggrecan and other molecules are lost due to proteolysis. This can result in loss of disk height, which can ultimately lead to pain. Biological therapy of intervertebral disk degeneration aims at preventing or restoring primarily aggrecan content and other molecules using therapeutic molecules. The purpose of the article is to review recent advances in biological repair of degenerate disks and pain.

椎間盤退變和疼痛的分子治療

椎間盤的髓核組織含有大量的聚蛋白聚糖酶賦予磁盤有顯著的能力抵抗壓力。其他分子如膠原和非膠原蛋白在細胞外基質也是運作所必需的。在椎間盤退變中，由於蛋白質水解，聚蛋白聚糖酶和其他分子都流失了。這導致椎間盤高度減低，最終會導致疼痛。椎間盤退變的生物治療的目的是使用分子治療預防或恢復主要的聚蛋白聚糖酶和其他分子的含量。本文的目的是回顧在生物修復退化椎間盤和疼痛的最新發展。