

Global Spine J 2013; 03(03): 175-184

DOI: 10.1055/s-0033-1347299

Inflammatory Mediators in Intervertebral Disk Degeneration and Discogenic Pain

Although degeneration of the intervertebral disk has historically been described as a misbalance between anabolic and catabolic factors, the role of inflammatory mediators has long been neglected. However, past research clearly indicates that inflammatory mediators such as interleukin (IL)-1 β , IL-6, IL-8 and tumor necrosis factor- α are expressed at higher levels in “diseased” intervertebral disks. Both disk cells as well as invading macrophages can be the source of the detected cytokines. Importantly, occurrence of inflammatory mediators in the disk can worsen the progress of degeneration by inducing the expression of matrix degrading enzymes as well as by inhibiting extracellular matrix synthesis. **In addition, inflammatory mediators play a crucial role in pain development during intervertebral disk herniation (i.e., sciatica) and disk degeneration (i.e., discogenic pain). This review provides information on the most relevant inflammatory mediators during different types of disk diseases and explains how these factors can induce disk degeneration and the development of discogenic and sciatic/radiculopathic pain.**

在椎間盤退變和椎間盤源性疼痛的炎症介質

雖然椎間盤退變一直以來被形容為合成代謝和分解代謝因素之間的失衡，炎症介質的作用長期以來都被忽視。然而，過去的研究清楚地表明，炎症介質如白細胞介素（IL）-1 β ，IL-6，IL-8 和腫瘤壞死因子- α 表示在“患病的”椎間盤表現出更高的水平。椎間盤細胞以及巨噬細胞侵入都是檢測細胞因子的來源。重要的是，在椎間盤出現的炎症介質可以透過誘導基質降解酶的表達，以及通過抑制細胞外基質的合成使退變惡化。此外，在椎間盤突出（即坐骨神經痛）和椎間盤退變（即椎間盤源性疼痛）中，炎症介質在疼痛發展過程中發揮了至關重要的作用。這次檢討提供了在不同類型的椎間盤疾病中最相關的炎症介質的資料，並解釋這些因素如何引發椎間盤退變和椎間盤源性疼痛和坐骨神經/神經根疼痛的發展。