

Increased Expression of Matrix Metalloproteinases in Ligamentum Flavum Hypertrophy of the Patients with Lumbar Spinal Stenosis

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ABSTRACT This paper shows an investigation of the expressions of MMP-3,-13 and their polymorphisms in patients with lumbar spinal stenosis (LSS). Hypertrophied LF tissues and peripheral bloods were obtained from 50 patients with LSS. The expressions of MMP-3,-13 and their polymorphisms were analyzed. No relationship was found between thickness of LFs and MMP-3,-13 genotypes. LF tissues were divided to three groups as grade 1, 2 and 3. Rich elastic fibrils were observed in grade 1. Elastic fibers and elastin/collagen rates decreased in grade 2-3 and 4, and collagen fibers increased and presented a cystic degeneration. MMP-3 immunopositive cells were higher than MMP-13. A correlation between LF thicknesses and MMP-3 was detected. Both MMP-3, -13 were expressed (MMP-3 in higher quantities) in high grade hypertrophied LF. The researchers expect that this paper would provide a better understanding of the pathogenesis of LF hypertrophy and lead to therapeutic alternatives for LSS patients.