

ABSTRACT

CORRELATION BETWEEN THE GRADING OF NERVE ROOT COMPRESSION AND THE GRADING OF LUMBAR MULTIFIDUS ATROPHY IN LDH PATIENTS AT RSUD DR. H. ABDUL MOELOEK 2023–2025

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Background: Lumbar disc herniation (LDH) is a major contributor to low back pain and frequently results in spinal nerve root compression. This study aims to examine the association between the grading of nerve root compression and the grading of lumbar multifidus muscle atrophy in individuals diagnosed with lumbar disc herniation.

Methods: This quantitative study employed a retrospective cross-sectional design using secondary data from 106 medical records and lumbosacral MRI scans of patients with LDH. The degree of nerve root compression was assessed using the Pfirrmann classification, while lumbar multifidus muscle atrophy was evaluated using the Kader classification. Quantitative measurements of muscle atrophy were performed using ImageJ and Fiji software. Bivariate analysis was conducted using the Gamma correlation test.

Results: The correlation analysis using the Gamma test showed a statistically significant association between the degree of nerve root compression and the degree of lumbar multifidus muscle atrophy ($r = 0.905$, $p = 0.000$).

Conclusion: The grade of nerve root compression showed a statistically significant correlation with the grade of lumbar multifidus muscle atrophy among patients with herniated nucleus pulposus.

Keywords: Lumbosacral MRI, lumbar disc herniation, multifidus muscle atrophy, nerve root compression

ABSTRAK

KORELASI DERAJAT PENEKANAN RADIKS SARAF DENGAN DERAJAT ATROFI MULTIFIDUS LUMBAL PADA PASIEN HNP DI RSUD DR. H. ABDUL MOELOEK 2023–2025

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Latar Belakang: Hernia nukleus pulposus (HNP) merupakan penyebab utama nyeri punggung bawah dan sering menimbulkan penekanan radiks saraf. Penelitian ini bertujuan mengevaluasi hubungan antara derajat penekanan radiks saraf dan derajat atrofi muskulus multifidus lumbal pada pasien HNP.

Metode: Penelitian kuantitatif dengan desain potong lintang retrospektif menggunakan data sekunder berupa 106 rekam medis dan hasil MRI lumbosakral pasien HNP. Derajat penekanan radiks saraf dinilai menggunakan klasifikasi Pfirrmann, sedangkan derajat atrofi muskulus multifidus lumbal dinilai menggunakan klasifikasi Kader. Pengukuran atrofi dilakukan secara kuantitatif menggunakan aplikasi ImageJ dan Fiji. Analisis bivariat dilakukan menggunakan uji korelasi Gamma.

Hasil: Didapatkan nilai signifikansi (p) = 0,000 dan $r = 0,905$ pada analisis korelasi derajat penekanan radiks saraf dengan derajat atrofi multifidus lumbal menggunakan uji Korelasi Gamma.

Kesimpulan: Terdapat korelasi yang signifikan antara derajat penekanan radiks saraf dan derajat atrofi muskulus multifidus pada pasien HNP.

Kata kunci: Atrofi muskulus multifidus, Hernia nukleus pulposus, MRI lumbosakral, Penekanan radiks saraf.