

KORELASI DERAJAT STENOSIS FORAMINAL LUMBAL DENGAN CROSS SECTIONAL AREA MUSCULUS MULTIFIDUS PADA MRI LUMBAL PASIEN *LOW BACK PAIN*

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INTISARI

Latar Belakang: Nyeri punggung bawah/*low back pain* (LBP) merupakan nyeri pada area tepi bawah tulang rusuk kedua belas hingga daerah gluteal dengan atau tanpa nyeri yang menjalar ke salah satu atau kedua tungkai bawah, serta berlangsung setidaknya selama satu hari. Salah satu penyebab LBP adalah stenosis foraminal lumbal, yang terjadi akibat penyempitan foraminal yang dilalui akar nervus spinalis. LBP dapat memengaruhi musculus paraspinal. Salah satu bagian musculus paraspinal yang berperan penting dalam menjaga stabilisasi fungsional dan struktural vertebra lumbal yaitu musculus multifidus. Namun, hal tersebut sering diabaikan dalam praktik klinis.

Tujuan: Untuk mengetahui apakah terdapat korelasi antara derajat stenosis foraminal lumbal dan *cross sectional area* (CSA) musculus multifidus pada pasien LBP.

Material dan Metode: Penelitian ini menggunakan metode observasional analitik korelasi (*cross-sectional*) menggunakan data sekunder pada 48 subjek dengan klinis LBP yang telah menjalani pemeriksaan MRI lumbal di RSUP Dr. Sardjito Yogyakarta pada bulan Januari hingga Desember 2023. Dengan menggunakan DICOM MRI, dilakukan pengukuran derajat stenosis foraminal lumbal dan CSA musculus multifidus lumbal setinggi DIV L1-2 hingga L5-S1. Hasil penelitian dianalisis menggunakan korelasi Spearman.

Hasil: Didapatkan hasil derajat stenosis foraminal lumbal dextra terberat banyak ditemukan pada setinggi DIV L4-5 (27,1%). Derajat stenosis foraminal lumbal sinistra terberat banyak ditemukan pada setinggi DIV L4-5 (29,2%). Selain itu, didapatkan hasil bahwa semakin rendah segmen lumbal, semakin rendah juga rerata rasio CSA musculus multifidus dextra dan sinistra. Uji korelasi juga menunjukkan terdapat korelasi yang signifikan antara derajat stenosis foraminal lumbal dextra dengan CSA musculus multifidus lumbal dextra pada setiap segmen, begitu juga dengan sisi sinistra.

Kesimpulan: Terdapat korelasi negatif yang signifikan antara derajat stenosis foraminal lumbal dengan CSA musculus multifidus.

Kata Kunci: Foraminal Lumbal, Musculus Multifidus, LBP, MRI Lumbal

CORRELATION OF THE DEGREE OF LUMBAR FORAMINAL STENOSIS WITH THE CROSS SECTIONAL AREA MULTIFIDUS MUSCLE IN LUMBAR MRI OF LOW BACK PAIN PATIENTS

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ABSTRACT

Background: Low back pain (LBP) is pain in the area of the lower edge of the twelfth rib to the gluteal area, and lasts for at least one day. One of the causes of LBP is lumbar foraminal stenosis, which occurs due to narrowing of the foraminal through which the spinal nerve roots pass. LBP can also affect the paraspinal muscles. One part of the paraspinal muscles that plays an important role in maintaining structural stabilization of the lumbar spine is the multifidus muscle. However, it is often overlooked in clinical practice.

Objective: To determine the correlation between the degree of lumbar foraminal stenosis and *cross sectional area* (CSA) of the multifidus muscle in LBP patients.

Materials and Methods: This study used an observational analytical correlation (cross-sectional) method using secondary data on 48 subjects with clinical LBP who had undergone lumbar MRI examination at RSUP Dr. Sardjito Yogyakarta from January to December 2023. Using MRI DICOM files, the degree of lumbar foraminal stenosis and CSA of the lumbar multifidus muscle at DIV L1-2 to L5-S1 were measured. The research results were analyzed using Spearman correlation.

Results: The results showed that the highest degree of right lumbar foraminal stenosis was found at DIV L4-5 (27.1%). The highest degree of left lumbar foraminal stenosis was found at DIV L4-5 (29.2%). In addition, the results showed that the lower the lumbar segment, the lower CSA ratio of the right and left multifidus muscles. The results also showed that there was a significant correlation between the degree of right lumbar foraminal stenosis and the CSA of the right lumbar multifidus muscle in each segment, as well as on the left side.

Conclusion: There was a significant negative correlation between the degree of lumbar foraminal stenosis and CSA of the multifidus muscle.

Keywords: Lumbar Foraminal, Multifidus Muscle, LBP, Lumbar MRI