

Hubungan Temuan MRI Vertebra Lumbal dengan Nyeri Neuropatik pada Pasien *Low Back Pain* di RSUD Prof. Dr. Margono Soekarjo

ABSTRAK

Latar Belakang: *Low back pain* (LBP) merupakan salah satu keluhan muskuloskeletal yang paling sering ditemukan dan dapat disertai nyeri neuropatik akibat gangguan atau kompresi struktur saraf. Berbagai kelainan struktural pada vertebra lumbal seperti Hernia Nukleus Pulposus (HNP), stenosis, spondylosis, dan spondylolisthesis diketahui berperan dalam menimbulkan iritasi atau kompresi radiks saraf, namun bukti hubungan langsung antara temuan MRI dan kejadian nyeri neuropatik masih memerlukan penelitian lebih lanjut. **Tujuan:** Mengetahui hubungan antara temuan MRI vertebra lumbal dengan nyeri neuropatik pada pasien LBP di RSUD Prof. Dr. Margono Soekarjo. **Metodologi:** Penelitian ini menggunakan desain observasional analitik dengan pendekatan *cross-sectional*. Data diperoleh dari rekam medis MRI lumbal dan hasil skrining nyeri neuropatik menggunakan kuesioner ID Pain. Sebanyak 68 pasien memenuhi kriteria inklusi. Analisis hubungan dilakukan menggunakan uji *Chi-Square* dan regresi logistik multivariat dengan nilai signifikansi $p < 0,05$. **Hasil:** Dari 68 pasien, temuan MRI terbanyak adalah HNP 58 (85,3%) kasus, stenosis 39 (57,4%) kasus, spondylosis 26 (38,2%) kasus, dan spondylolisthesis 13 (19,1%) kasus. Sebanyak 45 pasien (66,2%) teridentifikasi mengalami nyeri neuropatik. Uji *Chi-Square* menunjukkan hubungan bermakna antara nyeri neuropatik dengan HNP ($p = 0,014$), stenosis ($p = 0,003$), spondylosis ($p = 0,006$), dan spondylolisthesis ($p = 0,004$). Analisis multivariat menunjukkan stenosis sebagai faktor dengan signifikansi paling kuat. **Kesimpulan:** Terdapat hubungan signifikan antara temuan MRI vertebra lumbal dan nyeri neuropatik pada pasien LBP. Stenosis lumbal merupakan faktor yang paling berpengaruh terhadap terjadinya nyeri neuropatik. Temuan ini menegaskan pentingnya evaluasi radiologis dalam penatalaksanaan LBP dengan komponen neuropatik.

Kata Kunci: *Low back pain*; Nyeri neuropatik; MRI vertebra lumbal; Radikuler.

Association Between Lumbar Vertebral MRI Findings and Neuropathic Pain in Patients With Low Back Pain at Prof. Dr. Margono Soekarjo General Hospital

ABSTRACT

Background: Low back pain (LBP) is one of the most prevalent musculoskeletal complaints and may be accompanied by neuropathic pain resulting from irritation or compression of neural structures. Various structural abnormalities of the lumbar vertebrae such as herniated nucleus pulposus (HNP), spinal stenosis, spondylosis, and spondylolisthesis are known to contribute to nerve root compression. However, evidence regarding the direct association between specific MRI findings and neuropathic pain remains limited and requires further investigation. **Objective:** This study aims to determine the association between lumbar MRI findings and neuropathic pain among patients with LBP at Prof. Dr. Margono Soekarjo General Hospital. **Methods:** This study employed an analytical observational design with a cross-sectional approach. Data were obtained from lumbar MRI reports and neuropathic pain screening using the ID Pain questionnaire. A total of 68 patients met the inclusion criteria. The associations between MRI findings and neuropathic pain were analyzed using the Chi-square test and multivariate logistic regression, with a significance threshold of $p < 0.05$. **Results:** The study demonstrated among 68 patients, the most common MRI findings were HNP (58 cases; 85.3%), stenosis (39 cases; 57.4%), spondylosis (26 cases; 38.2%), and spondylolisthesis (13 cases; 19.1%). Neuropathic pain was identified in 45 patients (66.2%). Chi-square analysis demonstrated significant associations between neuropathic pain and HNP ($p = 0.014$), stenosis ($p = 0.003$), spondylosis ($p = 0.006$), and spondylolisthesis ($p = 0.004$). Multivariate analysis indicated that spinal stenosis was the strongest predictor of neuropathic pain. **Conclusion:** There is a significant association between lumbar MRI abnormalities and the presence of neuropathic pain in patients with LBP. Lumbar spinal stenosis emerges as the most influential factor contributing to neuropathic symptoms. These findings underscore the importance of radiological evaluation in the clinical management of LBP with neuropathic components.

Keywords: Low back pain; Neuropathic pain; Lumbar MRI; Radicular pain.