KORELASI *FACET JOINT OSTEOARTHRITIS DENGAN PFIRRMANN GRADE DISC DEGENERATION* PASIEN *LOW BACK PAIN* PADA PEMERIKSAAN *MAGNETIC RESONANCE IMAGING* LUMBOSACRAL

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INTISARI

Latar Belakang: LBP atau nyeri pinggang adalah salah satu dari 10 penyakit terbanyak di dunia dan penyebab *Disability-Adjusted Life Year* (DALY) tertinggi di dunia. Modalitas pencitraan seperti *computerized tomography* (CT) dan *magnetic resonance imaging* (MRI) sering dilakukan untuk mengidentifikasi etiologi dari LBP. Degenerasi diskus intervertebralis dan *facet joint* osteoartritis merupakan dua kondisi yang umum ditemukan pada pemeriksaan MRI

Tujuan: Penelitian ini bertujuan untuk mengetahui antara *disc degeneration* intervertebralis dengan *facet joint osteoarthritis* pada penderita *low back pain*

Methode: Penelitian ini merupakan jenis penelitian observasional analitik korelatif dengan desain penelitian *cross sectional*. Pengambilan data secara retrospektif dari data sekunder pasien dengan pengantar klinis *low back pain* yang dilakukan pemeriksaan MRI Lumbosacral di Instalasi Radiologi RSUP Dr. Sardjito Yogyakarta pada bulan Juli 2021 sampai bulan Juli 2022. Pengambilan sampel dilakukan secara *consecutive non-random sampling*. Subjek terpilih sesuai dengan kriteria inklusi dan eksklusi. Dilakukan penilaian derajat *disc degeneration* intervertebralis (*Pfirrmann Grade*) dan *facet joint osteoarthritis* (weishaupt grade) dengan pemeriksaan MRI Lumbosacral dan kedua hasilnya dianalisis menggunakan SPSS

Hasil: Jumlah sampel sebanyak 63 subjek. Usia didominasi kelompok umur lebih dari 50 tahun. Sebagian besar subjek adalah perempuan (58.7%). Subjek dengan kelebihan berat badan tingkat berat (25%) dan dengan berat badan normal didapatkan sebanyak (27%) Dari analisis uji korelasi *Spearman*, didapatkan hasil pengukuran pada segmen diskus intervertebralis L1-2 ($p = 0,172$), L2-3 ($p = 0,260$), (L3-L4 ($p = 0,381$), L4-L5 ($p = 0,170$), dan L5-S1 ($p = 0,319$). Koefisien korelasi menunjukan nilai pada segmen diskus intervertebralis intervertebralis L1-2 ($r = 0,174$), L2-3 ($r = 0,144$), (L3-L4 ($r = 0,112$), L4-L5 ($r = 0,175$), dan L5-S1 ($r = 0,128$).

Kesimpulan: Tidak terdapat korelasi yang signifikan antara *disc degeneration* intervetebra dengan *facet joint osteoarthritis* pada seluruh segmen intervertebra ($p > 0,05$). Koefisien korelasi menunjukkan bahwa kekuatan korelasi antara derajat *disc degeneration* intervetebra dengan *facet joint osteoarthritis* pada seluruh segmen intervertebra juga termasuk dalam kategori sangat lemah, hingga dapat diabaikan ($r < 0,250$).

Kata Kunci: *Low Back Pain, Pffirmann Grade, Facet Joint Osteoartritis*

CORRELATION OF FACET JOINT OSTEOARTHRITIS WITH PFIRRMANN GRADE DISC DEGENERATION IN LOW BACK PAIN PATIENTS ON LUMBOSACRAL MAGNETIC RESONANCE IMAGINATION EXAMINATION

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ABSTRACT

Background: LBP, or low back pain, is one of the ten most common diseases in the world and the highest cause of Disability-Adjusted Life Years (DALY) in the world. Imaging modalities such as computerized tomography (CT) and magnetic resonance imaging (MRI) are often performed to identify the etiology of LBP. Intervertebral disc degeneration and facet joint osteoarthritis are commonly found on MRI scans.

Objective: This study will determine the difference between intervertebral disc degeneration and facet joint osteoarthritis in low back pain patients.

Methods: This study is a correlative analytic observational study with a cross-sectional design. Retrospective data collection from secondary data of patients with clinical recognition of low back pain was carried out by Lumbosacral MRI examination at the Radiology Installation of RSUP Dr. Sardjito Yogyakarta from July 2021 to July 2022. Sampling was carried out using consecutive non-random sampling. Subjects were selected according to inclusion and exclusion criteria. The degree of intervertebral disc degeneration (Pfirrmann's grade) and facet joint osteoarthritis (Weishaupt's grade) was assessed by Lumbosacral MRI examination, and both results were analyzed using SPSS.

Results: The number of samples is 63 subjects. Age is dominated by the age group over 50 years. Most of the subjects were women (58.7%). Subjects are overweight (25%) and normal weight (27%). From the analysis of the Spearman correlation test, the measurement results were obtained for the intervertebral disc segments L1-2 ($p=0.172$), L2-3 ($p=0.260$), (L3-L4 ($p=0.381$), L4-L5 ($p = 0.170$), and L5-S1 ($p = 0.319$) The correlation coefficient indicates the value of the intervertebral disc segments L1-2 ($r = 0.174$), L2-3 ($r = 0.144$), (L3-L4 ($r = 0.112$), L4-L5 ($r = 0.175$), and L5-S1 ($r = 0.128$).

Conclusion: There was no significant association between intervertebral disc degeneration and facet joint osteoarthritis in all intervertebral segments ($p > 0.05$). The correlation coefficient indicates that the strength of the correlation between the degree of intervertebral disc degeneration and facet joint osteoarthritis in all intervertebral segments is also in the very weak category, so that it can be neglected ($r < 0.250$).

Keywords: Low Back Pain, Pffirmann Grade, Facet Joint Osteoarthritis