

HUBUNGAN KADAR LDL DENGAN NILAI *ANKLE BRACHIAL INDEX* PASIEN DIABETES MELITUS TIPE 2 DI RSUI BANYUBENING

ABSTRAK

Latar belakang: Diabetes melitus tipe 2 merupakan faktor risiko utama terjadinya penyakit arteri perifer akibat proses aterosklerosis. Dislipidemia, khususnya peningkatan kadar *low density lipoprotein* (LDL), berperan dalam proses aterosklerosis. Akan tetapi, hubungan kadar LDL dengan *ankle brachial index* (ABI) sebagai indikator penyakit arteri perifer pada pasien diabetes melitus tipe 2 masih menunjukkan hasil yang bervariasi.

Tujuan: Penelitian ini bertujuan untuk mengetahui hubungan antara kadar LDL dengan nilai ABI pada pasien diabetes melitus tipe 2 di RSUI Banyubening.

Metode: Penelitian ini menggunakan metode observasional analitik dengan desain *cross sectional*. Subjek penelitian merupakan pasien diabetes melitus tipe 2 berusia 40–70 tahun. Data kadar LDL diperoleh dari pemeriksaan laboratorium metode enzimatis generasi 3, sedangkan nilai ABI diukur menggunakan perbandingan tekanan darah sistol ekstremitas bawah (arteri tibialis posterior) dan atas (arteri *brachialis*). Analisis data dilakukan menggunakan uji korelasi nonparametrik Spearman.

Hasil: Subjek penelitian berjumlah 84. Rerata kadar LDL responden sebesar $160,71 \pm 55,30$ mg/dL dan rerata nilai ABI sebesar $1,04 \pm 0,17$. Hasil analisis menunjukkan tidak terdapat korelasi bermakna antara kadar LDL dan nilai ABI ($p = 0,621$).

Kesimpulan: Tidak terdapat hubungan yang bermakna antara kadar LDL dengan nilai ABI pada pasien diabetes melitus tipe 2 di RSUI Banyubening.

Kata kunci: *ankle brachial index*, diabetes melitus tipe 2, *low density lipoprotein*, penyakit arteri perifer

ASSOCIATION BETWEEN LDL LEVELS AND ANKLE BRACHIAL INDEX IN PATIENTS WITH TYPE 2 DIABETES MELLITUS AT RSUI BANYUBENING

ABSTRACT

Background: Type 2 diabetes mellitus is a major risk factor for peripheral arterial disease related to atherosclerotic processes. Dyslipidemia, particularly elevated low-density lipoprotein (LDL) levels, plays an important role in atherosclerosis; however, the association between LDL levels and ankle brachial index (ABI) as an indicator of peripheral arterial disease in patients with type 2 diabetes mellitus remains inconsistent.

Objective: This study aimed to determine the relationship between LDL levels and ABI values in patients with type 2 diabetes mellitus at RSUI Banyubening.

Methods: This study used an analytic observational method with a cross-sectional design. The study subjects were patients with type 2 diabetes mellitus aged 40–70 years. LDL levels were obtained from laboratory examinations using a third-generation enzymatic method, while ABI values were measured by comparing systolic blood pressure of the lower extremities (posterior tibial artery) and the upper extremities (brachial artery). Data were analyzed using the nonparametric Spearman correlation test.

Results: The mean LDL level was $160,71 \pm 55,30$ mg/dL and the mean ABI value was $1.04 \pm 0,17$. The analysis results showed that there was no significant correlation between LDL levels and ABI values ($p = 0.621$).

Conclusion: There is no statistically significant relationship between LDL levels and ABI values in patients with type 2 diabetes mellitus at RSUI Banyubening.

Keywords: ankle brachial index, low density lipoprotein, peripheral arterial disease, type 2 diabetes mellitus