

**PERBEDAAN KADAR *TRANSTHYRETIN* PLASMA ANTARA
SARKOPENIA DAN NON SARKOPENIA PADA LANJUT USIA**



R. Ifan Arief Fahrurrozi

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Pembimbing :

dr. Rose Dinda Martini, SpPD-KGer, M.Kes, FINASIM

Dr. dr. Roza Mulyana, SpPD-KGer, FINASIM

**PROGRAM STUDI PENYAKIT DALAM PROGRAM SPESIALIS
DEPARTEMEN ILMU PENYAKIT DALAM
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DR. M. DJAMIL PADANG**

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ABSTRAK

PERBEDAAN KADAR *TRANSTHYRETIN* PLASMA ANTARA SARKOPENIA DAN NON SARKOPENIA PADA LANJUT USIA

R. Ifan Arief Fahrurozi, Rose Dinda Martini¹, Roza Mulyana¹

¹Divisi Geriatri, Departemen Ilmu Penyakit Dalam
Fakultas Kedokteran Universitas Andalas / RSUP dr. M. Djamil Padang

Pendahuluan: Sarkopenia merupakan salah satu sindroma geriatri akibat penurunan massa otot disertai kekuatan otot dan/atau performa fisik yang bersifat progresif dan generalisata pada lanjut usia (lansia). Proses penuaan, *inflamaging*, dan asupan protein memiliki peran signifikan terhadap kejadian sarkopenia. *Transthyretin* merupakan regulator positif massa otot. *Transthyretin* telah digunakan secara luas sebagai biomarker malnutrisi protein dan penurunan *lean body mass* yang menjadi komponen penyusun otot rangka. Kadar *transthyretin* yang rendah akan meningkatkan risiko sarkopenia pada lansia sehingga diperlukan deteksi dini risiko sarkopenia melalui pemeriksaan *transthyretin*. Penelitian ini bertujuan untuk mengetahui perbedaan kadar *transthyretin* plasma antara sarkopenia dan non sarkopenia pada lanjut usia.

Metode: Penelitian ini merupakan penelitian observasional analitik dengan pendekatan *cross-sectional* terhadap 46 subyek pasien geriatri berusia 60 – 79 tahun yang melakukan kunjungan ke poliklinik geriatri dan penyakit dalam RSUP dr. M. Djamil Padang serta poliklinik lansia Puskesmas Andalas. Subyek dikelompokkan menjadi sarkopenia dan non sarkopenia, kemudian dilakukan pemeriksaan *transthyretin* plasma dengan metode *enzyme-linked immunosorbent assay*. Perbedaan kadar *transthyretin* plasma antara kedua kelompok dianalisis menggunakan uji t tidak berpasangan melalui SPSS versi 29.

Hasil: Rerata kadar *transthyretin* plasma lansia dengan sarkopenia yaitu 10,87 (3,26) mg/dL. Rerata kadar *transthyretin* plasma lansia non sarkopenia yaitu 20,33 (2,48) mg/dL. Kadar *transthyretin* plasma lansia dengan sarkopenia lebih rendah dibandingkan lansia non sarkopenia. Uji t tidak berpasangan menunjukkan perbedaan kadar *transthyretin* plasma yang bermakna secara statistik antara sarkopenia dan non sarkopenia pada lanjut usia ($p < 0,001$).

Kesimpulan: Terdapat perbedaan kadar *transthyretin* plasma yang bermakna antara sarkopenia dan non sarkopenia pada lanjut usia.

Kata Kunci: Lanjut usia, Sarkopenia, *Transthyretin*, TTR

ABSTRACT

DIFFERENCES IN PLASMA TRANSTHYRETIN LEVELS BETWEEN SARCOPENIA AND NON-SARCOPENIA IN THE ELDERLY

R. Ifan Arief Fahrurozi, Rose Dinda Martini¹, Roza Mulyana¹

¹Division of Geriatrics, Department of Internal Medicine
Faculty of Medicine, Andalas University / Dr. M. Djamil General Hospital
Padang

Introduction: Sarcopenia is a geriatric syndrome characterized by progressive and generalized loss of skeletal muscle mass accompanied by decreased muscle strength and/or physical performance in the elderly. The aging process, inflammaging, and protein intake play significant roles in the occurrence of sarcopenia. Transthyretin is a positive regulator of muscle mass. Transthyretin has been widely used as a biomarker for protein malnutrition and decreased lean body mass, which is a component of skeletal muscle. Low transthyretin levels increase the risk of sarcopenia in the elderly, necessitating early detection of sarcopenia risk through transthyretin examination. This study aimed to determine the differences in plasma transthyretin levels between sarcopenia and non-sarcopenia in the elderly.

Methods: This was an analytical observational study with a cross-sectional approach involving 46 geriatric patients aged 60-79 years who visited the geriatric and internal medicine clinics at Dr. M. Djamil General Hospital Padang and the elderly clinic at Andalas Public Health Center. Subjects were grouped into sarcopenia and non-sarcopenia categories, and plasma transthyretin levels were measured using enzyme-linked immunosorbent assay. The difference in plasma transthyretin levels between the two groups was analyzed using an unpaired t-test through SPSS version 29.

Results: The mean plasma transthyretin level in elderly with sarcopenia was 10,87 (3,26) mg/dL. The mean plasma transthyretin level in non-sarcopenic elderly was 20,33 (2,48) mg/dL. Plasma transthyretin levels in elderly with sarcopenia were lower compared to non-sarcopenic elderly. The unpaired t-test showed a statistically significant difference in plasma transthyretin levels between sarcopenia and non-sarcopenia in the elderly ($p < 0,001$).

Conclusion: There is a significant difference in plasma transthyretin levels between sarcopenia and non-sarcopenia in the elderly.

Keywords: Elderly, Sarcopenia, *Transthyretin*, TTR