

Tesis

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SISTEMIK, DAN SKOR APRI DENGAN NILAI
TRANSIENT ELASTOGRAPHY PADA
PASIEN HEPATITIS B KRONIK**



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KORELASI SKOR SIMPLER, INDEKS INFLAMASI IMUN SISTEMIK, DAN SKOR APRI DENGAN NILAI *TRANSIENT ELASTOGRAPHY* PADA PASIEN HEPATITIS B KRONIK

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ABSTRAK

Latar Belakang: Hepatitis B kronik dapat berkembang menjadi fibrosis hati, sirosis, dan karsinoma hepatoseluler. *Transient elastography* digunakan untuk menilai fibrosis secara non-invasif, tetapi ketersediaannya masih terbatas. Skor Simpler, indeks inflamasi imun sistemik (*systemic immune-inflammation index/SII*), dan skor APRI merupakan parameter laboratorium sederhana yang berpotensi membantu penilaian fibrosis hati. Penelitian ini bertujuan menganalisis korelasi ketiga parameter tersebut dengan nilai *transient elastography* pada pasien hepatitis B kronik.

Metode: Penelitian analitik dengan rancangan potong lintang dilakukan pada 63 pasien dewasa hepatitis B kronik di Rawat Jalan Penyakit Dalam dan Instalasi Laboratorium Sentral RS Dr. M. Djamil Padang. Subjek dipilih secara *consecutive sampling*. Parameter penelitian meliputi skor Simpler, SII, skor APRI, dan nilai *transient elastography*. Analisis korelasi menggunakan uji Spearman rho, kemudian dilanjutkan dengan regresi linier berganda.

Hasil: Rerata usia subjek sebesar 42,4 (12,76) tahun, dengan proporsi laki-laki 60,3% dan perempuan 39,7%. Median nilai *transient elastography*, skor Simpler, SII, dan APRI berturut-turut sebesar 5,9 (2,3-70,6) kPa, 4,57 (1,21-114,32), 387,9 (74,9-4761,8), dan 0,3 (0,2-2,9). Skor Simpler menunjukkan korelasi positif kuat dengan *transient elastography* ($r=0,722$; $p<0,001$). SII tidak menunjukkan korelasi ($r=-0,433$; $p<0,001$). Skor APRI menunjukkan korelasi positif sangat kuat ($r=0,808$; $p<0,001$). Analisis regresi linier berganda menunjukkan hanya skor APRI yang berhubungan secara independen dengan nilai *transient elastography* ($\beta=0,925$; $p<0,001$).

Simpulan: Skor Simpler dan APRI menunjukkan korelasi bermakna dengan *transient elastography*. Skor APRI memiliki korelasi paling kuat dan berpotensi menjadi penanda laboratorium noninvasif pendukung untuk menilai fibrosis hati pada pasien hepatitis B kronik.

Kata Kunci: APRI, hepatitis B kronik, indeks inflamasi imun sistemik, skor Simpler, *transient elastography*.

CORRELATION OF SIMPLER SCORE, SYSTEMIC IMMUNE-INFLAMMATION INDEX, AND APRI SCORE WITH TRANSIENT ELASTOGRAPHY IN PATIENTS WITH CHRONIC HEPATITIS B

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ABSTRACT

Background: Chronic hepatitis B can progress to liver fibrosis, cirrhosis, and hepatocellular carcinoma. Transient elastography is a non-invasive method for assessing liver fibrosis; however, its availability remains limited. The SIMPLER score, systemic immune-inflammation index (SII), and aspartate aminotransferase-to-platelet ratio index (APRI) are simple laboratory-based parameters that may support the assessment of liver fibrosis. This study aimed to analyze the correlations between these three parameters and transient elastography values in patients with chronic hepatitis B.

Methods: This analytical cross-sectional study included 63 adult patients with chronic hepatitis B from the Internal Medicine Outpatient Clinic and Central Laboratory of Dr. M. Djamil General Hospital, Padang. Participants were recruited using consecutive sampling. The study parameters included the SIMPLER score, SII, APRI, and transient elastography values. Correlations were analyzed using Spearman's rank correlation test, followed by multiple linear regression analysis.

Results: The mean age of the participants was 42.4 (12.76) years, with 60.3% men and 39.7% women. The median transient elastography value, SIMPLER score, SII, and APRI were 5.9 (2.3–70.6) kPa, 4.57 (1.21–114.32), 387.9 (74.9–4761.8), and 0.30 (0.20–2.90), respectively. The SIMPLER score showed a strong positive correlation with transient elastography ($r=0.722$; $p<0.001$). SII did not show a correlation with transient elastography ($r=-0.433$; $p<0.001$). APRI showed a very strong positive correlation with transient elastography ($r=0.808$; $p<0.001$). Multiple linear regression analysis showed that only APRI was independently associated with transient elastography values ($\beta=0.925$; $p<0.001$).

Conclusion: The Simpler score and APRI were significantly correlated with transient elastography. APRI showed the strongest correlation and may serve as a supportive noninvasive laboratory marker for assessing liver fibrosis in chronic hepatitis B.

Keywords: APRI, chronic hepatitis B, Simpler score, systemic immune-inflammation index, transient elastography.