

KORELASI DIAMETER TROMBUS DENGAN SKOR VILLALTA PADA DEEP VEIN THROMBOSIS EXTREMITAS INFERIOR

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INTISARI

Latar Belakang: *Post-trombotic syndrome* (PTS) merupakan komplikasi kronis yang sering terjadi setelah *deep vein thrombosis* (DVT). Salah satu faktor yang berperan dalam keparahan PTS adalah ukuran diameter trombus pada vena. Pemeriksaan ultrasonografi duplex merupakan modalitas utama yang dapat menilai morfologi trombus, termasuk diameter absolut dan rasio trombus terhadap lumen vena, yang dapat berhubungan dengan skor Villalta sebagai indikator klinis derajat keparahan PTS.

Tujuan: Mengetahui korelasi antara diameter trombus (absolut dan rasio) dengan skor Villalta pada pasien *deep vein thrombosis* extremitas inferior.
Metode: Penelitian observasional dengan rancangan *cross-sectional* yang dilaksanakan di Instalasi Radiologi RS Dr. Sardjito Yogyakarta pada bulan Maret–Juli 2025. Subjek penelitian terdiri atas 40 pasien DVT extremitas inferior yang memenuhi kriteria inklusi dan eksklusi. Pengukuran diameter trombus dilakukan dengan ultrasonografi duplex, sedangkan skor Villalta diperoleh dari penilaian klinis pasien yang diambil dari rekam medis. Analisis korelasi dilakukan menggunakan uji *Spearman* correlation.

Hasil: Terdapat korelasi positif yang bermakna antara diameter trombus dan skor Villalta, baik untuk rasio diameter ($r = 0,698$; $p < 0,01$) maupun diameter absolut ($r = 0,541$; $p < 0,01$). Subanalisis menunjukkan korelasi lebih kuat pada kelompok usia ≤ 60 tahun, indeks massa tubuh overweight, trombus akut, lokasi proximal, dan oklusi inkomplet. Rasio diameter trombus terbukti memiliki korelasi yang lebih kuat dibandingkan ukuran absolut dalam menilai risiko PTS.

Kesimpulan: Terdapat korelasi positif yang bermakna antara diameter trombus (absolut dan rasio) dengan skor Villalta pada pasien DVT extremitas inferior. Rasio diameter trombus terhadap lumen vena merupakan parameter radiologis yang lebih representatif dalam menilai keparahan post-thrombotic syndrome.

Kata kunci: *Deep vein thrombosis*, *post-thrombotic syndrome*, skor Villalta, diameter trombus, ultrasonografi duplex

CORRELATION BETWEEN THROMBUS DIAMETER AND VILLALTA SCORE IN LOWER EXTREMITY DEEP VEIN THROMBOSIS

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ABSTRACT

Background: Post-thrombotic syndrome (PTS) is a chronic complication commonly occurring after deep vein thrombosis (DVT). One of the main factors contributing to PTS severity is thrombus diameter size. Duplex ultrasonography is the primary imaging modality for assessing thrombus morphology, including absolute diameter and thrombus-to-lumen ratio, which may correlate with the Villalta score as a clinical indicator of PTS severity.

Objective: To determine the correlation between thrombus diameter (absolute and ratio) and Villalta score in patients with lower extremity deep vein thrombosis.

Methods: This observational cross-sectional study was conducted at the Radiology Department, Dr. Sardjito General Hospital, Yogyakarta, from March to July 2025. A total of 40 patients with lower extremity DVT who met the inclusion and exclusion criteria were included. Thrombus diameter was measured using duplex ultrasonography, and Villalta scores were obtained from clinical evaluations. Data were analyzed using the Spearman correlation test.

Results: There was a significant positive correlation between thrombus diameter and Villalta score, both for thrombus ratio ($r = 0.698$; $p < 0.01$) and absolute diameter ($r = 0.541$; $p < 0.01$). Subgroup analysis revealed stronger correlations among patients aged ≤ 60 years, overweight BMI, acute thrombus, proximal location, and incomplete occlusion. The thrombus-to-lumen ratio demonstrated a stronger prognostic relationship than the absolute diameter in assessing PTS risk.

Conclusion:

There is a significant positive correlation between thrombus diameter and Villalta score in patients with lower extremity DVT. The thrombus-to-lumen ratio serves as a more representative radiological parameter in evaluating the severity of post-thrombotic syndrome.

Keywords: deep vein thrombosis, post-thrombotic syndrome, Villalta score, thrombus diameter, duplex ultrasonography.