

## Hubungan anti cyclic citrullinated peptide (Anti CCP) cairan sendi dan serum dengan aktivitas penyakit artritis rematoid = Correlation between synovial fluid and serum anti cyclic citrullinated peptide (anti CCP) concentration with disease activity in rheumatoid arhtritis

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### Abstrak

#### **ABSTRAK**

Artritis rematoid merupakan penyakit otoimun sistemik yang paling sering ditemukan di dunia pada berbagai populasi dan ras, ditandai oleh inflamasi menetap pada jaringan sendi yang meliputi sendi perifer, distribusi simetris, dengan atau tanpa kerusakan rawan sendi dan erosi tulang. Pemantauan aktivitas penyakit diperlukan untuk menentukan keberhasilan terapi. Selama ini, pemantauan aktivitas penyakit menggunakan Disease Activity Score 28 (DAS28), meskipun terdapat kekurangan berupa parameter klinis yang bersifat subjektif, menggunakan perhitungan yang rumit, dan terdapat ketidakseragaman nilai titik potong derajat aktivitas penyakit pada berbagai penelitian.

Penelitian ini merupakan penelitian potong lintang untuk menilai korelasi antara kadar anti-CCP serum dan cairan sendi dengan aktivitas penyakit (DAS28) pada 30 subjek dengan artritis rematoid. Subjek yang memenuhi kriteria masukan dan tidak ada kriteria tolakan dilakukan penentuan skor DAS28 serta pemeriksaan anti-CCP serum dan cairan sendi.

Median (rentang) kadar anti-CCP serum secara keseluruhan, pada tingkat aktivitas penyakit sedang, dan berat adalah 112.23 (1.02-1853.07), 70.98 (1.02-1224.07), dan 157.59 (1.07-1853.07) RU/mL. Median (rentang) kadar anti-CCP cairan sendi secara keseluruhan, pada tingkat aktivitas penyakit sedang dan berat adalah 85.54 (0.90-4150.58), 58.90 (1.03-2477.81), dan 110.23 (0.90-4150.58) RU/mL. Median (rentang) skor DAS28 pada keseluruhan subjek ditemukan 5.04 (4.04-7.10). Uji korelasi Spearman didapatkan korelasi positif lemah namun tidak bermakna secara statistik antara kadar anti-CCP serum dan DAS28 dengan  $rs = 0.296$ ,  $p = 0.056$ , korelasi positif lemah yang bermakna secara statistik antara anti-CCP cairan sendi dan DAS28 dengan  $rs = 0.331$ ,  $p = 0.037$ , sedangkan korelasi antara anti-CCP serum dengan cairan sendi ditemukan kuat yang bermakna secara statistik dengan  $rs = 0.907$ ,  $p < 0.01$ .

Kami menyimpulkan kadar anti-CCP cairan sendi berkorelasi lemah dengan aktivitas penyakit (DAS28). Tidak ditemukan korelasi yang bermakna secara statistik antara kadar anti-CCP serum dengan aktivitas penyakit (DAS28). Terdapat korelasi kuat antara kadar anti-CCP serum dengan kadar anti-CCP dalam cairan sendi.

#### **ABSTRACT**

Rheumatoid arhtritis is the most common chronic systemic autoimmune disease worldwide among many populations and races, characterized by persistent joint inflammation affecting peripheral joints, symmetrical distribution, with or without joint damage or bone erosion. Disease activity monitoring is needed to

determine treatment response. Nowadays, Disease Activity Score 28 (DAS28) is used to monitor disease activity, although it uses subjective clinical parameter, complicated calculation, and ununiformity cut-off value for disease activity stages on various researches.

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This study was a cross sectional study to assess whether there was any correlation between anti-CCP serum and synovial fluid concentration with disease activity (DAS28) in 30 rheumatoid arthritis subjects. Blood and synovial fluid specimen collection and DAS28 determination was performed on subjects who fulfill inclusion and exclusion criteria, followed by anti-CCP assay on each specimen.

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Median (range) anti-CCP serum concentration in overall, moderate, and severe disease activity were 112.23 (1.02-1853.07), 70.98 (1.02-1224.07), and 157.59 (1.07-1853.07) RU/mL, respectively. Median (range) anti-CCP synovial fluid concentration in overall, moderate, and severe disease activity were 85.54 (0.90-4150.58), 58.90 (1.03-2477.81), and 110.23 (0.90-4150.58) RU/mL, respectively. Median (range) of DAS28 were 5.04 (4.04-7.10). A weak but not statistically significant correlation was found between serum anti-CCP concentration and DAS28 with  $r_s = 0.296$  ( $p = 0.056$ ). A weak and significant correlation was found between synovial fluid anti-CCP concentration and DAS28 with  $r_s = 0.331$  ( $p = 0.037$ ). A strong and significant correlation are found between serum and synovial fluid anti-CCP concentration, with  $r_s = 0.907$  ( $p < 0.01$ ) using Spearman correlation test.

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We concluded that synovial fluid anti-CCP concentration weakly correlated with disease activity. No significant correlation was found between serum anti-CCP concentration with disease activity. Strong correlation was found between serum and synovial fluid anti-CCP concentration.