

**HUBUNGAN KADAR HIGH SENSITIVITY C- REACTIVE
PROTEIN SERUM DENGAN SEVERITAS SINDROM
TEROWONGAN KARPAL**



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ABSSTRAK

HUBUNGAN KADAR HIGH SENSITIVITY C-REACTIVE PROTEIN DENGAN SEVERITAS SINDROM TEROWONGAN KARPAL

Latar belakang: *High Sensitivity C-Reactive Protein* (hsCRP) merupakan biomarker utama reaksi inflamasi dan cedera jaringan. Kompresi nervus medianus pada sindrom terowongan karpal (CTS) menimbulkan kerusakan saraf secara mekanik maupun iskemik. Neuroinflamasi akan mengaktifasi kemokin dan sitokin yang merangsang hepatosit menghasilkan CRP. Tujuan penelitian ini adalah untuk melihat hubungan antara kadar hsCRP serum dengan severitas sindrom terowongan karpal.

Metode : Penelitian observasional dengan desain *case control* ini dilakukan di Poliklinik Saraf RS DR. M. Djamil Padang pada pasien CTS sesuai kriteria inklusi dan eksklusi. Sampel dipilih dengan metode konsekutif. Severitas pada pasien CTS dinilai berdasarkan kriteria Mackinnson dan Sucher. Kadar hsCRP serum dianalisis dengan teknik *Enzyme-linked Immunosorbent Assay* (ELISA). Data dianalisa menggunakan statistik untuk menilai hubungan antara dua variabel.

Hasil : Median usia subjek CTS 51(30-60) tahun, dengan perempuan 22 orang (88%). Tidak terdapat perbedaan rerata usia dan jenis kelamin terhadap kontrol. Pada subjek dengan CTS, rerata BMI $25,76 \pm 4,07$ dan median hsCRP 1,6 (0,2 - 3,3) mg/L. Terdapat perbedaan bermakna rerata hsCRP antara subjek CTS dan kontrol, namun tidak terdapat hubungan bermakna antara kadar hsCRP serum dengan severitas CTS.

Kesimpulan : Terdapat perbedaan rerata kadar hsCRP serum antara subjek dengan CTS dibanding kontrol, namun tidak terdapat hubungan bermakna antara kadar hsCRP serum dengan severitas sindrom terowongan karpal.

Kata Kunci: *high sensitivy C-Reactive Protein*, severitas, sindrom terowongan karpal

ABSTRACT

THE ASSOCIATION BETWEEN SERUM HIGH SENSITIVITY C-REACTIVE PROTEIN AND SEVERITY OF CARPAL TUNNEL SYNDROME

Background: High sensitivity C-Reactive Protein (hsCRP) is a main biomarker of inflammatory reactions and tissue injury. Median nerve compression in carpal tunnel syndrome (CTS) evokes mechanical and ischemic nerve damage. Neuroinflammation will activate chemokines and cytokines which stimulate the hepatocytes to produce CRP. This study aims to find the association between serum hsCRP levels and the severity of carpal tunnel syndrome.

Methods: An observational study using case control was conducted at Outpatient Neurology Clinic of M. Djamil Hospital Padang for CTS that met inclusion and exclusion criteria. Samples were selected using consecutive methods. Severity of CTS patients followed Mackinnson and Sucher's criteria and serum hsCRP levels were analyzed using enzyme-linked immunosorbent assay (ELISA) technique. Data was analyzed using statistics to assess the association between two variables.

Results: Age of CTS patients median 51(30-60) years old, 22 women (88%). No difference in age and sex to control group. In subjects with CTS, BMI mean was 25.76 ± 4.07 and hsCRP median was 1.6(0.2 - 3.3) mg/L. No significant association between serum hsCRP levels and CTS severity. But there were significant differences between mean hsCRP of subjects with CTS and controls.

Conclusion: There were significant differences between mean hsCRP of subjects with CTS and controls. No association between serum hsCRP levels and the severity of carpal tunnel syndrome.

Keywords: carpal tunnel syndrome, high sensitivity C-Reactive Protein, severity