

## Korelasi kadar serum calprotectin dan high sensitive c- reactive protein (hs-crp) sebagai penanda inflamasi kronis dengan derajat endometriosis = Correlation of calprotectin serum levels and high sensitive c-reactive protein (hs-crp) as markers of chronic inflammation with degrees of endometriosis

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### Abstrak

Latar Belakang: Endometriosis adalah terdapatnya jaringan (kelenjar dan stroma) abnormal mirip endometrium di luar uterus yang menyebabkan proses reaksi inflamasi kronis. Penderita endometriosis mengalami gangguan yang bersifat siklik dan terus menerus. Masalah lain adalah keterlambatan diagnosis. Laparoskopi adalah baku emas endometriosis, namun sulit untuk mengenali endometriosis pada stadium minimal dan ringan. Penanda atau biomarker sangat berguna untuk menghindari tindakan invasif yang tidak diperlukan, belum ada biomarker dapat memberikan gambaran secara jelas pada penggunaan klinis sehari-hari. Calprotectin adalah penanda dari inflamasi akut dan kronis yang diekspresikan pada granulosit terutama pada neutrofil, dan juga pada monosit, dan makrofag.<sup>25,26</sup> belum ada penelitian yang meneliti hubungan calprotectin dengan penderita endometriosis. CRP merupakan marker inflamasi sistemik dan secara rutin digunakan sebagai penanda infeksi, inflamasi, atau kerusakan jaringan.<sup>30,31</sup> Data mengenai kadar CRP perifer pada endometriosis jarang dan kontroversial.<sup>31</sup>

Tujuan: Diketahui korelasi calprotectin dan hs-CRP serum sebagai penanda inflamasi kronis terhadap derajat endometriosis menurut klasifikasi rASRM, yaitu derajat minimal, ringan, sedang, dan berat

Metode: Analisis observasional dengan desain potong lintang pada bulan Juli 2017-April 2018 di RSUPN Cipto Mangunkusumo Jakarta, RSUP Fatmawati dan RSUP Persahabatan, Jakarta. Empat puluh enam pasien endometriosis yang akan menjalani laparoskopi atau laparotomi yang memenuhi syarat penelitian direkrut consecutive sampling diperiksa kadar serum Calprotectin dan hs-CRP. Penelitian ini disetujui oleh Komite Etik dan Penelitian tahun 2017

Hasil: Tidak adanya korelasi antara Calprotectin dengan derajat endometriosis ( $r=-0,16$ ,  $p=0,278$ ). Adanya korelasi positif lemah antara HsCRP dengan derajat endometriosis ( $r=0,29$ ,  $p=0,050$ )

Kesimpulan: Kadar Calprotectin serum tidak memiliki korelasi dengan derajat endometriosis. Kadar HsCRP serum memiliki korelasi positif lemah dengan derajat endometriosis, HsCRP dan Calprotectin serum tidak dapat membedakan derajat endometriosis

.....Background: Endometriosis is defined as the presence of endometrial-like tissue (gland and stroma) outside the uterus, which induces a chronic inflammatory reaction. Patients with endometriosis experience cyclic and continuous symptoms. Another problem is delays in diagnosis. Laparoscopy is gold standart in endometriosis, but it is difficult to recognize endometriosis at minimal and mild stage. Biomarkers are very useful to avoid invasive procedure that are not needed, none of these have been clearly shown to be of clinical use. Calprotectin is a marker of acute and chronic inflammation which is expressed on granulocytes, especially in neutrophils, and also in monocytes, and macrophages. There have been no studies examining the relationship between calprotectin and endometriosis. CRP is a systemic inflammatory marker and it routinely used as a marker of infection, inflammation, or tissue damage. Data regarding the CRP level in

peripheral blood of endometriosis patients are relatively scarce and controversial. Purpose: The purpose of this research is to identify correlation between calprotectin and hs-CRP as a marker of chronic inflammation with the degree of endometriosis according to the rASRM classification, which is minimal, mild, moderate, and severe. Method: Analysis observational with cross sectional study design in July 2017-April 2018 at Cipto Mangunkusumo General Hospital Jakarta, Fatmawati General Hospital and Persahabatan Hospital, Jakarta. Forty-six endometriosis patients undergoing laparoscopy or laparotomy who met the study requirements were recruited by consecutive sampling to be examined for serum levels of Calprotectin and hs-CRP. This study was approved by Ethics and Research Committee in 2017 Results: No correlation between Calprotectin and the degree of endometriosis ( $r=-0.16$ ,  $p=0.278$ ). There was a weak positive correlation between HsCRP and the degree of endometriosis ( $r=0.29$ ,  $p=0.050$ ). Conclusion: Calprotectin levels uncorrelated with the degree of endometriosis. HsCRP levels have a weak positive correlation with the degree of endometriosis, HsCRP dan Calprotectin cannot distinguish the degree of endometriosis