

## **ABSTRACT**

**Background:** Inflammatory bowel disease (IBD) is a chronic inflammatory disease that might involve the whole gastrointestinal which classified into two types of disease, Chron's Disease (CD) and Ulcerative Colitis (UC). Over the years IBD shows an increase prevalence and incidence while both have slightly known pathogenesis and the complexity of the disease themselves. Its has been acknowledged that symptoms cannot indicates mucosal inflammation and combination of diagnostic procedures needs to be done. A better understanding of disease severity to determine patient prognosis using existing tools can help in determining key treatments for patients in the future. Lymphocyte-to-monocyte ratio (LMR) is an existing biomarker that can identify disease severity in inflammatory diseases and because of the cost effectiveness and frequently checked in laboratory. Therefore, a biomarker that frequently checked such as LMR is worth exploring for further understanding of disease severity

**Objective:** To know whether lymphocyte to monocyte ratio has a correlation with disease severity in ulcerative colitis

**Methods:** In this cross-sectional study, patients are selected based on inclusion criteria. In order to find correlation between LMR and disease severity, spearman correlation as statistical analysis and ulcerative colitis endoscopy index of severity or UCEIS score ( remission 0-1, mild 2-4, intermediate 5-6, severe 7-8) to evaluate disease severity were used.

**Results:** : A total 69 patients suffered from UC have been found, after colonoscopy appearance results and lab examinations acquired , 47 patients are enrolled in this study and 22 of patients are excluded because of incomplete medical records. Spearman correlation analysis result showed  $r = 0.006$  and  $p\text{-value} = 0.967$  it means that there is no significant between two variables.

**Conclusion:** There is no correlation between lymphocyte to monocyte ratio (LMR) and disease severity in ulcerative colitis.

**Keywords:** Ulcerative colitis, disease severity, inflammatory bowel disease, endoscopic appearance

## INTISARI

**Latar Belakang:** *Inflammatory bowel disease* (IBD) merupakan penyakit radang usus kronik yang dapat mencakup seluruh saluran pencernaan yang di klasifikan menjadi dua tipe penyakit yaitu *Crohn's Disease* (CD) dan *Ulcerative Colitis* (UC). Selama bertahun-tahun IBD memperlihatkan peningkatan prevalensi dan insidensi meskipun pathogenesis dan kompleks penyakit inya hanya diketahui sedikit. Diketahui bahwa gejala-gejala tidak bisa mengindikasi inflamasi mukosa dan kombinasi procedure diagnosis perlu dilakukan. Pemahaman tentang keparahan penyakit untuk menentukan prognosis dengan alat-alat yang tersedia dan membantudalam menentukan kunci perawatan di masa depan. *Lymphocyte-to-monocyte ratio* (LMR) adalah biomarker yang dapat digunakan untuk mengidentifikasi keparahan penyakit di penyakit penyakit radang lainnya karena hemat biaya dan rutin di cek .Oleh sebab itu, biomarker yang sangat rutin di cek seperti LMR layak untuk di dalam lebih lanjut untuk mengetahui lebih lanjut tentang keparahan penyakit

**Tujuan:** Untuk mengetahui apabila *lymphocyte-to-monocyte ratio* memiliki korelasi dengan keparahan penyakit pada *Ulcerative Colitis*

**Metode:** Dalam studi cross-sectional ini, pasien di seleksi berdasarkan inclusion criteria. Untuk mengetahui korelasi antara LMR dan keparahan penyakit, korelasi spearman sebagai analisis statistik dan skoring *Ulcerative Colitis Endoscopic Index of Severity* tau skor UCEIS di gunakan.

**Hasil:** Total 69 pasien yang mengidap penyakit ulcerative colitis di temukan, setelah hasil kolonoscopy dan hasil pemeriksaan lab di dapatkan , 47 pasien dimasukkan kedalam studi dan 22 pasien di eksluki karena rekap medis tidak lengkap. Hasil analisis korelasi spearman hasil menunjukkan  $r= 0.006$  dan  $p\text{-value}= 0.967$ , yang berarti hasilnya tidak signifikan antara dua variable tersebut.

**Kesimpulan:** Tidak ada korelasi antara *lymphocyte -to-monocyte ratio* dengan keparahan penyakit pada *ulcerative colitis*

**Kata kunci:** Ulcerative Colitis, disease severity, inflammatory bowel disease, endoscopic appearance.



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**CORRELATION BETWEEN LYMPHOCYTE-TO-MONOCYTE RATIO (LMR) AND SEVERITY OF DISEASE  
IN PATIENTS WITH  
INFLAMMATORY BOWEL DISEASE (ULCERATIVE COLITIS) BASED ON COLONOSCOPY  
APPEARANCE**

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