

THE RELATIONSHIP OF MATERNAL NEUTROPHIL-TO-LYMPHOCYTE RATIO (NLR) LEVELS WITH THE INCIDENCE OF NEONATAL INFECTIONS IN PREMATURE RUPTURE OF MEMBRANE RECEIVING ANTIBIOTICS

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ABSTRACT

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BACKGROUND: Premature rupture of membranes (PROM) is defined as the rupture of the fetal membranes before the onset of regular uterine contractions. Preterm PROM is associated with a higher risk of morbidity and mortality in infants, one of which is neonatal infection. Neonates are at high risk of infection. The neutrophil-to-lymphocyte ratio (NLR) is a simple parameter that can be used to assess a person's inflammatory status

AIM: To determine the relationship between high maternal NLR and the incidence of neonatal infections in preterm PROM patients.

METHOD: This research is an observational analytical study with a cross-sectional design carried out at the Medical Records Installation of the Central General Hospital (RSUP) Dr. Kariadi Semarang. The research sample was 32 pregnant women with preterm PROM who gave birth using random sampling. Research inclusion criteria. Inclusion criteria in this study included 1) gestational age 28-36 weeks 6 days, 2) preterm premature rupture of membranes, 3) singleton pregnancy, live and intrauterine, 4) mother receiving prophylactic antibiotics ampicillin and erythromycin, 5) complete medical records. Exclusion criteria in the study included: 1) chronic infectious disease, 2) diabetes mellitus, and 3) trauma.

RESULT: There were 16 subjects with neonatal infections and 16 with non-neonatal infections. In subjects with an NLR value < 5.14 , 5 subjects had neonatal infections and 27 subjects had non-neonatal infections. There is a relationship between the NLR value and the incidence of neonatal infection ($p=0.003$). Subjects with an NLR value ≥ 5.14 have a 3.2 times higher risk of experiencing neonatal infection than subjects with an NLR value < 5.14 . Neonatal infections were found in 21 subjects out of 64 cases (32.3%).

CONCLUSION: The NLR in the neonatal infection group was significantly higher than that in the non-neonatal infection group. Subjects with an NLR > 4.69 have a 3.5 times higher relative risk of experiencing neonatal infection compared to subjects with an NLR value < 4.69 .

Keywords: Neutrophil-To-Lymphocyte Ratio, preterm premature rupture of membrane, neonatal infection