Pengaruh Pemberian Piroksikam terhadap Parameter Hematologi dan Red Blood Cell's Distribution Width pada Mencit Model Penyakit Paru Obstruktif Kronis = The Effects of Piroxicam on Hematology Parameters and Red Blood Cell's Distribution Width on Mouse Model of Chronic Obstructive Pulmonary Disease

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Abstrak

Paparan terhadap polutan, terutama asap rokok merupakan penyebab peradangan saluran napas kronis pada PPOK. Pada penelitian sebelumnya, piroksikam terbukti menghambat aktivasi neutrofil dan mengurangi pelepasan anion superoksida dari neutrofil melalui ikatannya dengan formyl peptide receptor (FPR) secara in vitro. Penelitian ini dilakukan untuk menganalisis efek antagonis FPR1 piroksikam secara in vivo terhadap parameter hematologi dan red blood’s cell distribution width (RDW). Penelitian ini menggunakan mencit betina ddY. Mencit diinduksi dengan asap rokok selama delapan minggu. Mencit yang sudah mengalami PPOK dibagi menjadi enam kelompok. Kelompok negatif diberi CMC-Na 0,5% secara oral, kelompok positif diberikan inhalasi budesonid 0,002mg/20gBB mencit/hari, serta tiga kelompok variasi dosis piroksikam dengan D1 0,026mg/20gBB mencit/hari; D2 0,052mg/20gBB mencit/hari; dan D3 0,104mg/20gBB mencit/hari secara oral. Mencit diinduksi selama delapan minggu, lalu diberikan perlakuan selama 21 hari. Parameter yang dinilai adalah hematologi serta red blood cell’s distribution width (RDW) yang diukur menggunakan hematology analyzer. Dosis 0,026mg/20gBB dan 0,104mg/20gBB memiliki efek terhadap parameter hematologi. Dosis 0,026mg/20gBB, 0,052mg/20gBB, dan 0,104mg/20gBB dapat menurunkan RDW. Berdasarkan penelitian, piroksikam memiliki efek terhadap parameter hematologi dan dapat menurunkan red blood cell’s distribution width (RDW).
.....Exposure to pollutants, especially cigarette smoke, is a cause of chronic airway inflammation in COPD. In a previous study, piroxicam was found to inhibit neutrophil activation and reduce the release of superoxide anion from neutrophils by binding to formyl peptide receptor (FPR) in vitro. This study was conducted to analyze the effect of the FPR1 antagonist piroxicam in vivo on hematological parameters and red blood's cell distribution width (RDW). This study used female DDY mice. Mice were induced with cigarette smoke for eight weeks. COPD Mice were divided into six groups. The negative group was given CMC-Na 0,5% orally, the positive group was given inhaled budesonide 0,002mg/20gBW mice/day, and the three variation dose groups of piroxicam with D1 0.026mg/20gBW mice/day; D2 0,052mg/20gBW mice/day; and D3 0,104mg/20gBW mice/day orally. Mice were induced for eight weeks, then given treatment for 21 days. The parameters assessed were hematology and red blood cell's distribution width (RDW) which was measured using a hematology analyzer. Doses 0.026mg/20gBW and 0.104mg/20gBW of piroxicam affect hematological parameters. Doses 0.026mg/20gBW, 0.052mg/20gBW, and 0.104mg/20gBW of piroxicam are able to reduce RDW. The results showed that piroxicam affects hematological parameters and reduces red blood cell’s distribution width (RDW).