INTISARI

Nyeri merupakan salah satu keluhan umum pasien yang datang untuk mendapatkan penanganan medis. Analgesik yang sering digunakan untuk pengobatan rasa nyeri adalah parasetamol. Parasetamol kurang poten dalam pengobatan nyeri intensitas tinggi sehingga digunakan sebagai kombinasi dengan analgesik narkotik atau NSAID. Tujuan penelitian ini adalah mensintesis α-naftoil karbonil aminofenol (turunan *p*-amonifenol) yang diduga lebih poten daripada parasetamol dan menguji aktivitas analgesiknya.

α-naftoil karbonil aminofenol disintesis dari urea, α-naftol dan *p*-aminofenol yang dilarutkan dalam air dengan bantuan HCl pekat dan direfluks 2 jam pada temperatur 110^{o}C. Uji analgesik yang digunakan adalah *Writhing Test* dengan induktor nyeri larutan asam asetat 0,25% dosis 200mg/kgBB. Hewan uji dibagi 6 kelompok dengan rincian kelompok I diberi larutan asam asetat dosis 200 mg/kgBB, kelompok II diberi larutan CMC-Na 0,5%, kelompok III diberi suspensi parasetamol dalam CMC-Na 0,5% dosis 100 mg/kgBB, kelompok IV-VI diberi suspensi α-naftoil karbonil aminofenol dalam CMC-Na 0,5% dosis tunggal 93,17 mg/kgBB; 186,34 mg/kgBB dan 372,68 mg/kgBB. Semua perlakuan diberikan peroral. Aktivitas analgesik direpresentasikan dengan % daya analgesik. Analisis statistik data kumulatif jumlah geliat dan % daya analgesik diawali dengan uji normalitas 1-sampel Kolmogorov-Smirnov dan homogenitas varian, dilanjutkan uji statistik parametrik yaitu ANOVA taraf kepercayaan 95% dengan apliaksi SPSS versi 10.

Sintesis dilakukan 5 kali dengan rata-rata rendemen 18,57%. Produk sintesis dapat dikatakan murni karena elusi produk sintesis dengan KLT dan LC-MS menimbulkan satu puncak dan jarak lebur produk sempit yaitu 80-82^{o}C. Berdasarkan hasil elusidasi struktur dengan LC-MS, spektroskopi IR dan spektroskopi ^{1}H-NMR, produk sintesis bukanlah α-naftoil karbonil aminofenol melainkan suatu senyawa turunan fenoksazin. Bobot molekul produk sintesis adalah 244,33. Aktivitas analgesik produk sintesis tidak berbeda signifikan dibandingkan dengan parasetamol (p>0,05).

Kata kunci : analgesik, parasetamol, α-naftoil karbonil aminofenol, *Writhing Test*

ABSTRACT

Pain was the one of common symptoms of patients who come to physician to get medical treatment. Paracetamol was the drug of choice in the first line therapy which was precribed to treat pain. However, paracetamol had low potency to relieve high intesity pain. Thus, it was given as a combination with narcotics or NSAID. This research was conducted to synthesize α-naphthoyl carbonil aminophenol (*p*-amoniphenol derivates) which was expected to be a more potential analgesics than paracetamol and to test wether it had analgesic activity or not.

α-naphtoyl carbonil aminophenol was sythesized by solving urea, α-naphthol and *p*-amoniphenol in aquadest. This reaction was catalyzed by high concentrated HCl solution and conducted for 2 hours with reflux in 110^{o}C. Writhing Test was used to test analgesic activity of product. Pain was inducted by 200 mg/kg acetic acid 25% which was given intraperitoneally. The test subjects was classified into 6 groups : group I was treated with 200 mg/kg acetic acid without test drug, group II was treated with 200 mg/kg acetic acid and CMC-Na 0,5%, group III was treated with 200 mg/kg acetic acid and 100 mg/kg paracetamol, group IV was treated with 200 mg/kg acetic acid and 93,17 mg/kg product, group V was treated with 200 mg/kg acetic acid and 186,34 mg/kg product, group VI was treated with 200 mg/kg acetic acid and 372,68 mg/kg product. Test drug was given orally. Analgesic activity was represented with % protection. Total writhes and % protection was analyzed statistically with homogenity test of 1-sample Kolmogorov-Smirnov and variance homogenity then continued with parametric statistic test of ANOVA in 95% confidence level using SPSS version 10.

Synthesis was conducted 5 times with average yield 18,57%. Product elution in TLC and LC-MS showed one peak, it also had narrow melting point (80-82^{o}C) so the product was pure. Product was not α-naphthoyl carbonil aminophenol based on structure elucidation with LC-MS, IR spectroscopy and ^{1}H-NMR spectroscopy. The product was pheoxazine derivates. Its molecular weight was 24,33. Analgesic activity of the product was not different significantly from paracetamol (p>0,05).

Keyword : analgesic, paracetamol, α-naphthoyl carbonil aminophenol, writhing test