ABSTRACT

Modification Structure of Piroxicam with 4-Chlorobenzoyl Chloride and The Analgesic Test of The Synthetic Compound in Mice (*Mus musculus*)

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An effort to increase analgesic activity of piroxicam had been done by synthesis of piroxicam with 4-chlorobenzoyl chloride based on asilation method. This synthesis used pyridine as organic base and the reaction was heated at 50-60^{o}C. The compound was analyzed by melting point test and Thin Layer Chromatography. The result showed that the compound had single spot and its melting point was 128-129ºC. The structure of the new compound was analyzed using the spectrophotometric data of ultraviolet and infrared, ^{1}H-NMR and ^{13}C-NMR spectrometric. Based on the data the compound was 4-(4'-chlorobenzoyloxy)-3-(N-2-pyridil) carboxamide -2H -1,2-benzothiazine-1,1-dioxide.

The analgesic activity of the compound were tested on mice using *Writhing test*. The analgesic activity dose were 0,21; 0,43; and 0,86 mg per body weight. The result showed that all of doses the pain-inhibition percentage of 4-(4'-chlorobenzoyloxy)-3-(N-2-pyridil) carboxamide -2H -1,2-benzothiazine-1,1-dioxide was higher than piroxicam.. The ED_{50} of 4-(4'-chlorobenzoyloxy)-3-(N-2-pyridil) carboxamide -2H -1,2-benzothiazine-1,1-dioxide was 0,40 mg/kg mice body-weight and the ED_{50} of piroxicam was 0,28 mg/kg mice body-weight. Based on the data, could be concluded that 4-(4'-chlorobenzoyloxy)-3-(N-2-pyridil) carboxamide -2H -1,2-benzothiazine-1,1-dioxide has analgesic activity higher than piroxicam.

Keyword: synthesis, 4-(4'-chlorobenzoyloxy)-3-(N-2-pyridil) carboxamide -2H -1,2-benzothiazine-1,1-dioxide, analgesic activity, writhing test