

ABSTRACT

COMPARISON OF TOXIC DOSE EFFECT OF GENERIC AMOXICILLIN AND BRANDED AMOXICILLIN TO RENAL MALONDIALDEHID (MDA) LEVEL OF Sprague Dawley STRAIN RATS (Rattus novergicus)

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The incidence of renal dysfunction due to antibiotic reaches 36%. Amoxicillin is an antibiotic that is most commonly used by the people of Indonesia, even without a prescription. There are two kinds of amoxicillin products available in the community, which are generic amoxicillin and branded amoxicillin. Amoxicillin can cause oxidative stress in the body where this state can be measured by the levels of malondialdehyde (MDA). The purpose of this study was to determine differences in the effects of the toxic dose of generic amoxicillin and branded amoxicillin on renal MDA levels and identify which amoxicillin cause higher increase of renal MDA levels. This study is an experimental study consisting of 36 test animals which were divided into 9 groups with 3 control groups and six treatment groups. The results showed average group levels of MDA renal, namely the control groups (Kn = 1.356 nmol/mg, KA = 6.090 nmol/mg and KB = 6.922 nmol/mg), the generic groups (A1 = 3.513 nmol/mg, A2 = 5.372 nmol/mg and A3 = 10.246 nmol/mg), and the branded groups (B1 = 4.279 nmol/mg, B2 = 6.520 nmol/mg and B3 = 11.655 nmol/mg). Comparison test results showed that there was a statistically significant difference between generic amoxicillin and branded amoxicillin on renal MDA levels of experimental animals at a dose of 822.4 mg/kg and branded amoxicillin increase renal MDA levels higher than generic amoxicillin.

Keywords: Amoxicillin, generic drug, branded drug, malondialdehyde