International Journal of PharmTech Research
CODEN (USA): IJPRIF, ISSN: 0974-4304, ISSN(Online): 2455-9563
Vol.9, No.5, pp 160-164, 2016

The Effect of Ranitidine Against Pharmacokinetics profile of Diclofenac Sodium

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Abstract : Ranitidine is one of the *H2-antagonist* which potent to inhibit the metabolism of other drugs by inhibits enzyme activity of metabolism inhibitor by binding the cytochrome P-450 that are reversible in forming complexes, so that the active of cytochrome P-450 will decrease. In many cases of ranitidine diseases ranitidine is widely used as a combination therapy with other drugs one of them is diclofenac sodium. Diclofenac sodium metabolism is occurs in the hearts and involving cytochrome P-450. This combination can lead into interaction on pharmacokinetic phase, especially in metabolism and excretion phase of diclofenac sodium. The objective of this research was to determine the effect of ranitidine on the pharmacokinetics profile of diclofenac sodium, especially in metabolism and excretion phases.*(Rattus Norvegicus)*

The method used in this research is experimental methods using 27 male white rats galur wistar *(Rattus Norvegicus)*. These rats were divided into 3 groups. First treatment group was given by diclofenac sodium solution, second treatment group was given by diclofenac sodium and then ranitidine for seven days with consecutively and for third treatment group was given by diclofenac sodium and ranitidine withsimultaneously. Diclofenac sodium dose is 4.5 mg / kg and ranitidine dose is 13.5 mg / kg for each group. The measurement of drug levels in plasma diclofenac sodium was carried out by using High Performance Liquid Chromatography (HPLC). The resultwas analyzed by using one-way ANOVA.

The results showed that no pharmacokinetic parameter values in the absorption phase did not show any significant effect on each group. While the phase of metabolism and excretion showed significant difference between control group with the other two treatment groups, but between the other two treatment groups did not showed any significant differences.

Keywords: pharmacokinetics, metabolism inhibitor, diclofenac sodium, ranitidine.

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