ABSTRACT

EFFECT OF SUCRALFATE SUSPENSION DOSAGE FORM ON ABSORPTION OF LEVOFLOXACIN ORAL IN RABBIT PLASMA

The effect of sucralfate on absorption of levofloxacin were investigated in randomized, crossover and single blind study. Levofloxacin was administered under three conditions: alone as control, concomitant (immediately after the administered of sucralfat) as group 1, and given two hours following the administration of sucralfat as group 2. The concentration of levofloxacin in plasma were determined by a validated spectrofluorometric method. By noncompartmental methods, the maximum concentration of drug in plasma (C_{max}), the time to C_{max} (t_{max}), and the area under the concentration-time curve (AUC) were determined. Mean values of C_{max}, t_{max}, and AUC_{0-360} of levofloxacin were $3,35 \pm 0,09$ µg/ml, 60 ± 0 minutes, and $555,50 \pm 19,19$ µg.minutes/ml, respectively. The effect of coadministration of levofloxacin with sucralfate immediately resulted in significant decrease of all absorption parameter of levofloxacin ($p < 0,05$). It delayed levofloxacin absorption (t_{maks} 90 ± 0 minutes) and decreased the C_{max} by $57,77 \pm 1,84\%$ ($1,42 \pm 0,06$ µg/ml) and AUC_{0-360} by $42,34 \pm 4,91\%$ ($319,66 \pm 19,17$ µg.minutes/ml). A smaller but have significant decrease in C_{max} $7,24 \pm 5,08\%$ ($3,11 \pm 0,10$ µg/ml), while not significant in t_{max} (60 ± 0 minutes) and AUC_{0-360} $6,93 \pm 3,66\%$ ($530,88 \pm 25,41$ µg.minutes/ml) was noted on coadministration of levofloxacin within two hours after sucralfate. Those are compared to control. According to these results, it is suggested that the administration times of levofloxacin and sucralfate suspension were appropriately spaced.

Keyword: Levofloxacin, sucralfate, spectrofluorometric, interaction of fluoroquinolone.