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Pharmacokinetic Study of Clarithromycin in Human Female of Pakistani Population

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Abstract : The study was designed to assess the various pharmacokinetic parameters of a commercially available clarithromycin Tablet (Klaricid® 250 mg Abbot, Pakistan) in plasma sample of healthy adult female volunteers by applying a rapid, sensitive and accurate HPLC-UV analytical method. The human plasma samples were evaluated by using an isocratic High Performance Liquid Chromatography (HPLC) system of Sykam consisted of a pump with a column C18 column (250×4.6mn, 5µm) UV-detector. The mobile phase comprises of potassium dihydrogen phosphate (50 mM, pH 6.8, contained 0.7% triethylamine), methanol and acetonitrile (30:25:45, v/v/v) was delivered with injection volume of 20µL at flow rate of 1 mL/min. The detection was performed at λmax 275 nm. By applying this method, important pharmacokinetic parameters Cmax, Tmax, Area under curve (AUC), half-life (t1/2), , Volume of distribution (Vd) and Clearance (Cl) were measured. The parameters of pharmacokinetics of clarithromycin were calculated by software (APO) pharmacological analysis. Maximum plasma concentrations Cmax 2.78 ±0.33 µg/ml, time to reach maximum concentration tmax 2.82 ± 0.11 h and Area under curve AUC was 20.14 h.µg/ml. The mean ± SD values obtained for the pharmacokinetic parameters showed a significant difference in pharmacokinetic parameters observed in previous literature which emphasizes the need for dose adjustment of clarithromycin in Pakistani population.

Keywords : Pharmacokinetc,Clarothromycin,HPLC,Pakistan
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