Absolute bioavailability determination of a sustained release theophylline

DETERMINACION DE LA BIODISPONIBILIDAD ABSOLUTA DE UN COMPRIMIDO DE LIBERACION CONTROLADA DE TEOFILINA

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The absolute biovailability of a sustained release tablet developed in our laboratory was evaluated. The formulation employs acrylic resins Eudragit as the sustaining release system and tablets were obtained using conventional technology. The study was carried out on healthy volunteers comparing the tablet performance with both intravenous and oral solution aminophylline administration. The pharmacokinetic behavior of intravenous theophylline fits well to a two compartment model; the oral solution does not exhibit a clear tendency. The sustained release tablet produces an effective delay in the release of the drug from the pharmaceutical form, obtaining lower C(max) and higher T(max) than the oral solution. Its pharmacokinetic behavior fits better to an one compartment model, due to the masking of the fast distribution phase by the absorption process. The delay does not affect of the formulation to delivery practically all the dose, since the absorbed fraction was 91 ± 10.6%. Some auth