EVALUATION OF PHARMACOKINETIC OF MAZINDOL IN PLASMA, URINE AND SALIVA AND VALIDATION OF ANALYTICS METHODS

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Introduction: Obesity is a chronic disease that has become prevalent in developed and developing countries. The World Health Organization (WHO) estimates that over one billion people are overweight globally, and that if current trends continue, that number will increase to 1.5 billion by 2015.[1] Among the different medications currently employed in the treatment of obesity, amphetamine derivatives, sibutramine and mazindol are still largely used.[2] These drugs can determine relevant medical and psychiatric adverse effects and induce abuse, dependence and tolerance. Mazindol (Fig. 1) is used as an anorexant for short-term combined therapy in the treatment of obesity. Mazindol is a sympathomimetic amine with pharmacological activity similar to that of the amphetamines. It is a central nervous system (CNS) stimulant and its appetite suppression activity is believed to be caused by direct stimulation of the satiety center in the hypothalamic and limbic regions.[3] Although mazindol has been available in the market since a long time, the number of reports on the determination of mazindol in human biological matrices is limited as well as on its pharmacokinetics. Several groups have reported methods for the determination of mazindol in human plasma, mouse brain and plasma and horse urine. These methods include high-performance liquid chromatography with ultraviolet detection (HPLC-UV) or fluorescence detection, and gas chromatography/mass spectrometry (GC-MS) for the determination. However, there is no methods reported for the determination of mazindol in human saliva and urine.[4]

Objectives: The goal of this study is develop and validate a method for determination of mazindol in plasma, urine, and saliva. Moreover, apply the validated method for a pharmacokinetic study in healthy volunteers and correlate these concentrations to evaluate the usefulness of saliva samples as a predictor to plasma levels of mazindol.

Materials and Methods: In this work will be employed HPLC-UV, CG-MS and Capillary Electrophoresis (CE).

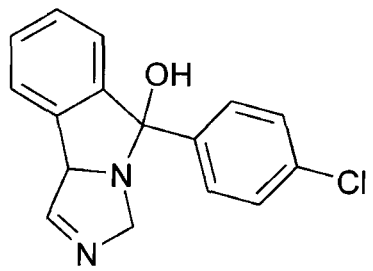

Fig. 1: Chemical Structure of mazindol

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