J Anal Bioanal Techniques 2012, 3:7
http://dx.doi.org/10.4172/2155-9872.S1.010

OMICS Group Conferences
Accelerating Scientific Discovery

3rd International Conference and Exhibition on
Analytical & Bioanalytical Techniques

November 22-24, 2012 Hyderabad International Convention Centre, India

Simultaneous determination of Clopidogrel and Atrovastatin in rat plasma by HPLC method: Application to drug interaction

Yalamanchili Sri Harsha
JSS University, India

Clopidogrel and statins are of outmost importance in the management of coronary artery diseases, contributing to reducing cardiovascular events.Several studies have sought to address whether anypotential pharmacokinetic interaction between Clopidogrel and Statins results in clinically relevant consequences.

Clopidogrel, being a potent platelet aggregation inhibitor, is used widely around the world to reduce cardiovascular risks in patients with stroke, myocardial infarction, and atherosclerosis. The aim of this review firstly focuses on a comprehensive update of chromatography determination of Clopidogrel and its metabolites as well as in rat plasma.

Atrovastatin Calcium chemically it is 2-(4-flurorophenyl) ß, d-dihydroxy-5-isopropyl-3-phenyl-4-(phenylamino) carbonyl-1H-Pyrrole-1-heptanoic acid trihydrate calcium salt[1]. It is a synthetic lipid lowering agent and an inhibitor of 3-hydroxy-3-methylglutaryl-coenyme A (HMG-CoA) reductase[2]. This enzyme catalyzes the conversion of HMG-CoA to mevalonate, an early and rate limiting stage in cholesterol biosynthesis.

Atherosclerotic heart disease includes acute coronary syndromes and hyperlipidmia. The prescription of patients with atherosclerotic heart disease mostly contains Atrovastatin and Clopidogrel. Aim of this study is to estimate clinical pharmacokinetic interaction between atorvastatin and clopidogrel in atherosclerotic heart disease patients.

A reverse phase-liquid chromatographic method described for the simultaneous determination of Clopidogrel and Atrovastatin. Chromatographic separation of the two drugs was achieved on a reverse phase C-18 column using a mobile phase of a ternary mixture of phosphate buffer and acetonitrile adjusted to pH 6.1 with orthophosphoric acid in a ratio of 25:75 v/v. The liquid chromatographic method developed offers symmetric peak shape, good resolution, and reasonable retention time for both drugs. Linearity, accuracy, and precision were found to be acceptable over the concentration ranges 20-100 µg/ml for clopidogrel and Atorvastatin. The liquid chromatographic method was successfully applied to the quality control of formulated products and drug interaction study between the drugs in rat plasma.

Biography

Yalamanchili Sri Harsha, student of M.Pharm Pharmaceutical Analysis, JSS College of Pharmacy, Mysore. He is doing his dissertation work under the guidance of Mr R.S Chandan, Professor, Dept. of Pharmaceutical Analysis, JSS College of Pharmacy, Mysore. His current area of research is on study of drug drug interaction.

yalamanchiliharsha@choudarymail.com