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Assessment of endogenous biochemical composites emphasizing drug interaction of cardiovascular combined dosage formulation in marketed product

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The study reveals the re-investigational approaches of a cardiovascular formulated tablet dosage i.e., Atorvastatin (ATVS) & Olmesartan (OLM) after getting negative feedbacks on pharma- ceutical market. A simple, sensitive, precise and rapid analysis under highly sophisticated LCMS/MS system was carried-out to evaluate the endogenous biochemical composites like Aldosterone (ALD), Angiotensin-II(ANG-II) and Mevalonate (MVA) in plasma concentration level, which associate with these drugs pharmacology. The methods were developed and validated, finally analyzes for plasma concentration among 20 patient volunteers pre-administered with targeted combined tablet dosage. Chromatographic peaks of standard and internal standard exhibits excellent regression curve line and correlative coefficient, r2=0.998, 0.999 & 0.99947360808176 of ALD, ANG-II & MVA respectively. The quality control profiles of accuracy, mean% recovery are ranged between 90.6-99.13% & 88.2-96.3% respectively of endogenous bio-analytes. And inter-day & intraday precision % RSD (Relative Std. Dev.) ranges from 1.60-1.90 of the same. Analytical reports represent the lower concentration of ALD after ATVS + OLM therapy compared to without drug. But, in case of ANG-II it's completely inverse. And MVA conc. lowers equally in both ATVS+OLM and ATVS (individual therapy). ALD & ANG-II are physiologically responsible for hypertension while MVA for cholesterol biosynthesis. Thus, study concludes that ATVS bioavailability is not interrupted but the OLM bioavailability gets interrupted in the combinatory (ATVS+OLM) formulation and stands weak antihypertensive activity compared to individual therapy, due to pharmacokinetic interaction. So, it fails the expected synergism.

Biography

Rakesh Das has completed M Pharm from Jadavpur University with specialization in Clinical Pharmacy & Pharmacy Practice. Now, he is a PhD research Scholar in Jadavpur University. He is working in IPS College of Pharmacy since after M.Pharm from 2009 to till date. He has 7 international papers and 3 National papers after M.Pharm and PhD.

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