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SIMULTANEOUS DETERMINATION OF AMLODIPINE AND OLMESARTAN IN HUMAN PLASMA BY LIQUID CHROMATOGRAPHY TANDEM MASS SPECTROMETRY AND ITS APPLICATION IN PHARMACOKINETIC STUDY

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The present study describes a sensitive, specific and rapid method based on liquid chromatography coupled to tandem mass spectrometry (LC-MS/MS) for the simultaneous determination of amlodipine (AML) and olmesartan (OLM) in human plasma by using amlodipine D4 (IS1) and olmesartan D6 (IS2) as internal standards. Plasma samples were extracted by solid-phase extraction (SPE). The method was validated over parameters like selectivity, matrix effect, sensitivity, specificity, linearity, precision and accuracy, various stabilities in plasma, recovery and reinjection reproducibility. During the validation, inter and intra-batch precision were less than 15% and the accuracy was within 85-115%. Extraction recoveries were 75.30%, 81.41%, 79.19% and 81.72% for AML, OLM, IS1 and IS2 respectively. The method was applied to the pharmacokinetic study of OLM and AML in healthy subjects following a single oral dose of OLM and AML 40 mg/10 mg.

Corresponding author: **Prof. Dharma Kishore**
Tel.: +91 1438 228456

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Jain P, Bhardwaj YR, Kishore D*
Department of Pharmacy, Banasthali University,
Banasthali, Rajasthan, India
e-mail: *kishoredharma@yahoo.co.in*