

Jain R, Jain N, Jain DK, Jain SK. Eco-friendly quantitative estimation of lercanidipine hydrochloride: A novel approach using hydrotropic solubilization technique. *Bull. Pharm. Res.* 2013;3(1):23-8.

Abstract: Hydrotropic solution may be a proper choice to preclude the use of organic solvents so that, a simple, accurate, novel, safe and precise method could be developed for estimation of poorly water soluble drug, lercanidipine hydrochloride. Solubility of lercanidipine hydrochloride (LER) is increased by using 2 M citric acid as hydrotropic agent. There was more than 61 fold solubility enhancement in hydrotropic solution as compared with distilled water. LER showed the maximum absorbance at 363 nm. At this wavelength, hydrotropic agent and other tablet excipients did not show any significant interference in the spectrophotometric assay. The developed method was found to be linear in the range of 50-250 $\mu\text{g/ml}$ with correlation coefficient (r^2) of 0.9997. The mean percent label claims of tablets of LER in formulation-I and formulation-II estimated by the proposed method were found to be 98.63 ± 0.73 to 98.93 ± 0.57 respectively. The developed methods were validated according to ICH guidelines and values of accuracy, precision and other statistical parameters were found to be in good accordance with the prescribed values. As hydrotropic agent was used in the proposed method, this method is eco-friendly and it can be used in routine quantitative analysis of drug in bulk drug and dosage form in industries.

Key words: Lercanidipine hydrochloride, Citric acid, Hydrotropic solubilization technique.

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