

Simultaneous spectrophotometric determination of amlodipine and atorvastatin in commercial tablet by H-point standard addition method

M. Ansari Doghe¹, S. Amiri^{2,*}, M. Kazemi Pour³, S. Gholami³

¹Pharmaceutical Research Center, Faculty of Pharmacy, Kerman University of Medical Sciences, Kerman, Iran

²Kerman Medical Student Research Committee, Faculty of Pharmacy, Kerman University of Medical Sciences, Kerman, Iran

³Department of Chemistry, Azad Islami University, Kerman, Iran

Background and Aims: Amlodipine basilate (AM) is an important calcium channel blocker belonging to the dihydropyridine family. It is used in the treatment of hypertension and angina pectoris. AM inhibits the transmembrane influx of calcium ions into vascular smooth muscle and cardiac muscle. Atrovastatin (AT) is a synthetic hydroxymethylglutaryl coenzyme A (HMG-CoA) reductase inhibitor that has been demonstrated to be efficacious in reducing both cholesterol and triglyceride. Caduet® is a combination of two drugs. The modification of the standard addition method is called "H point standard addition method" (HPSAM) and is used where the error resulting from the presence of a direct interference in the presence of an analyte is transformed into a systematic error. This error can be evaluated and eliminated. This method also permits both proportional and constant error produce by the matrix of sample to be corrected directly. This work describes a simple, inexpensive and accurate HPSAM on the basis of spectrophotometry for the simultaneous determination of AM and AT in pharmaceutical preparations. The linearity of the proposed method was investigated in the range of 10-80mg/L for AT and 5-10mg/L for AM. The limits of detections were 1.80 mg/L and 0.14 mg/L for AT and AM, respectively. The limits of quantitation were 2.78 mg/L and 0.34 mg/L for AT and AM, respectively. RSD% for both inter and intraday precision were lower than 2.44% and 2.41% for AT and AM respectively. Results showed that the proposed method is fast and economical in comparison with the more time-consuming and expensive HPLC.

Keywords: Amlodipine; Atrovastatin; HPSAM