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Simultaneous Quantification of Atorvastatin Calcium and Aspirin by High-performance Liquid Chromatography in Bulk and Tablet Dosage Form

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SUMMARY. **A fast and sensitive high-performance liquid chromatography (HPLC) method was developed for the simultaneous quantification of atorvastatin calcium (AC) and aspirin (AS). AS selectively and competitively inhibits Analgesia, reduction of fever, prevention of clotting. AC selectively and competitively inhibits the hepatic enzyme HMG CoA reductase. The method involves the drug was diluted with mobile phase and directly analysed with HPLC system. The separations were performed on a XBridge C18 Column 150×4.6mm, 5 μm with 50 mM Ammonium acetate buffer:acetonitrile in the ratio of 40:60v/v as a mobile phase and the detection was performed at 250 nm. The standard curve was linear (r = 0.999) over the concentration range 30 to 90 μg/mL for AS and 4 to 12 μg/mL for AC. The percentage relative standard deviation for intra- assay precision was 0.61 and 0.62% for AS and AC, respectively. The accuracy range was from 99 to 101% for both drugs. The developed analytical method could be successfully applicable for the estimation of AS and AC simultaneously.**

RESUMEN. Se desarrolló un método de cromatografía líquida de alta resolución (HPLC) rápido y sensible para la cuantificación simultánea de atorvastatina cálcica (AC) y aspirina (AS). AS inhibe de forma selectiva y competitiva analgesia, reducción de la fiebre, prevención de la coagulación. AC inhibe selectiva y competitivamente la enzima hepática HMG CoA reductasa. El método involucra que el fármaco se diluya con fase móvil y se analice directamente con un sistema de HPLC. Las separaciones se realizaron en una columna XBridge C18 de 150 x 4,6 mm. 5 μm con tampón de acetato de amonio 50 mM: acetonitrilo en la proporción de 40:60 v/v como fase móvil y la detección se realizó a 250 nm. La curva estándar fue lineal (r = 0,999) en el rango de concentración de 30 a 90 μg/mL para AS y de 4 a 12 μg/mL para AC. La desviación estándar relativa porcentual para la precisión intraensayo fue de 0,61 y 0,62% para AS y AC, respectivamente. El rango de precisión fue de 99 a 101% para ambos fármacos. El método analítico desarrollado podría ser aplicable con éxito para la estimación de AS y AC simultáneamente.

KEY WORDS: aspirin, atorvastatin calcium, HPLC, method validation.

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