

A Simple and Rapid Determination of Voriconazole in Human Plasma by HPLC with Fluorescence Detection and Its Application to a Patient

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Abstract

Voriconazole has been approved for treatment of invasive fungal diseases, especially aspergillosis. Plasma voriconazole level is considerably variable in patients. In a previous study, monitoring of the plasma voriconazole level is important for assessments of efficacy and adverse drug reactions such as liver dysfunction. A simple and highly sensitive high-performance liquid chromatographic method with fluorescence detection was developed for the determination of voriconazole in human plasma. Voriconazole and naproxen as an internal standard were extracted from plasma with ethyl acetate. They were separated by Capcell Pak C18 MG column with a mixture of acetonitrile-25mM phosphate buffer (pH 3.5) (42: 58, v/v) as a mobile phase, and were then detected with a spectrofluorometrically at 372 nm with excitation at 254 nm. This method was used to determine the plasma voriconazole concentration in a patient on voriconazole therapy.

Key words: Voriconazole, High performance liquid chromatography, Fluorencence detection, Plasma concentration