Quantification of Major Protoberberine Alkaloids and a Steroid in Coscinium fenestratum.

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Résumé

The quantification of the components of herbal medicines is of great importance in controlling their quality and gaining a better understanding of their pharmacological effects. Several studies had investigated on the quantification of principle compound in Coscinium fenestratum(Goetgh.) Colebr, berberine, using TLC and liquid chromatography previously. However, there is no report on simultaneous quantification of other multiple compounds together with berberine. This study investigated the quantification of berberine, palmatine, jatrorrhizine, 20-hydroxyecdysone, and 8-oxoberberine in the C. fenestratum by using liquid chromatography mass spectrometry. The samples were obtained from 5 places in Lao P.D.R. The amount of the compounds were calculated from the peak area at 345 nm and 249 nm using the calibration line. The effect of plant's size (10-70 mm in diameter) on the amount of the compounds was also studied. It was found that the amount of berberine in the C. fenestratum from different area varied from 1.8 % to 5.0% of dry-material. The amount of palmatine and jatrorrhizine were 0.1-0.5%, and those of 20-hydroxyecdysone and 8-oxoberberine were 0.08-0.28%, and 0.01-0.08%, respectively. The higher amount of berberine, jatrorrhizine were observed in the larger size of C. fenestratum, which indicates that the size of the plant is an important parameter that controls the amount of compounds in C. fenestratum and may be useful for the selection of the medicinal plant in practical use.

Mots-Clés: Medicinal plant, Coscinium fenestratum, Berberine, Alkaloid, Steroid, LC/MS

*Intervenant