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Comparison on Pharmacokinetics of Four Flavonoid Glycosides from *Hedyotis diffusa* in Normal and Tumor-Bearing Rats by UPLC-MS/MS

Li-Man QIAO [1], Shu LIN [1], Qi-Jun JIANG [2],* & Xiao CUI [1] *

[1] *The Second Affiliated Hospital and Yuying Children's Hospital of Wenzhou Medical University, Wenzhou, China*

[2] *Department of Dermatology, Donggang Central Hospital, Dandong, China*

***SUMMARY*. Based on the tumor-bearing rat model, using rutin, apigenin-7-O-glucoside, quercitrin, and isoquercitrin from *Hedyotis diffusa* as the research object, the pharmacokinetics of those four flavonoid glycosides in the pathological state was studied, establishing a method for the comparison of the pharmacokinetics of flavonoid extracts in normal rats and tumor-bearing rats, which was analyzed by UPLC-MS/MS in subcutaneous tumor models of SD rat made with Walker-256 tumour cells. Compared with the pharmacokinetics parameters of flavonoid glycosides in normal rats, the C_{max} and $AUC_{0-\infty}$ of rutin, quercitrin, isoquercitrin, and apigenin-7-*O*-glucoside in the tumor-bearing rats were significantly decreased, $t_{1/2}$ was prolonged, and the metabolic time of four components was prolonged to 24 h, which revealed the effect of pathological condition on the pharmacokinetic characteristics of flavonoid glycosides. The method established in this study is simple, fast, sensitive, and suitable for the pharmacokinetic study of flavonoid glycosides in rats *in vivo*. The pharmacokinetic characteristics of flavonoids in normal and tumor-bearing rats are different.**

RESUMEN. Sobre la base del modelo de rata portadora de tumores, utilizando rutina, apigenina-7-O-glucósido, quercitrina e isoquercitrina de *Hedyotis diffusa* como objeto de investigación, se estudió la farmacocinética de esos cuatro glucósidos flavonoides en el estado patológico, estableciendo un método para la comparación de la farmacocinética de los extractos de flavonoides en ratas normales y ratas portadoras de tumores, que se analizó mediante UPLC-MS/MS en modelos de tumores subcutáneos de ratas SD elaborados con células tumorales Walker-256. En comparación con los parámetros farmacocinéticos de los glucósidos flavonoides en ratas normales, la C_{max} y el $AUC_{0-\infty}$ de la rutina, la quercitrina, la isoquercitrina y la apigenina-7-*O*-glucósido en las ratas portadoras de tumores disminuyeron significativamente, $t_{1/2}$ se prolongó y el tiempo metabólico de los cuatro componentes se prolongó a 24 h, lo que reveló el efecto del estado patológico en las características farmacocinéticas de los glucósidos flavonoides. El método establecido en este estudio es simple, rápido, sensible y adecuado para el estudio farmacocinético de los glucósidos flavonoides en ratas *in vivo*. Las características farmacocinéticas de los flavonoides en ratas normales y con tumores son diferentes.

KEY WORDS: flavonoid glycosides, *Hedyotis diffusa* Willd., pharmacokinetics, tumor-bearing rats.

* Authors to whom correspondence should be addressed. *E-mail:* jqj1188@sina.com (Qi-Jun Jiang) and cuixiao999@163.com (Xiao Cui).

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