Latin American Journal of Pharmacy
(formerly *Acta Farmacéutica Bonaerense)*
Lat. Am. J. Pharm. **38** (1): 24-8 (2019)

Received: September 1, 2018
Revised version: October 15, 2018
Accepted: October 17, 2018

The effects of Compound Kushen Injection on the Pharmacokinetics of icotinib in Rats

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SUMMARY. **The aim of our study is to investigate the pharmacokinetics of icotinib in rats after administration of compound kushen injection (CKI). Twelve male rats were randomly divided into two groups (n = 6). Experimental group and control group were pretreated with CKI or saline once a day by intraperitoneal administration for 7 consecutive days. Then, icotinib (35 mg/kg) were given to all rats by oral administration on the 8 th day. The plasma concentrations of icotinib were determined by UPLC-MS/MS. The results showed the $AUC_{(0-t)}$ in experimental group increased by 1.37 times ($p < 0.05$), $t_{1/2}z$ increased 33.3% ($p > 0.05$) and CLz/F decreased 61.3% ($p < 0.05$) compared with the control group. Those results indicated that the CKI can repress icotinib metabolism and significantly improve the concentration of icotinib in rats, which may be related to its inhibition effect on CYP450.**

RESUMEN. El objetivo de este estudio es investigar la farmacocinética de icotinib en ratas después de la administración de un compuesto de inyección de kushen (CKI). Doce ratas macho fueron divididas aleatoriamente en dos grupos (n = 6). El grupo experimental y el grupo de control se pretrataron con CKI o solución salina una vez al día por administración intraperitoneal durante 7 días consecutivos. Luego, se administró icotinib (35 mg/kg) a todas las ratas mediante administración oral en el octavo día. Las concentraciones plasmáticas de icotinib se determinaron mediante UPLC-MS/MS. Los resultados mostraron que el $AUC_{(0-t)}$ en el grupo experimental aumentó 1.37 veces ($p < 0.05$), $t_{1/2}z$ aumentó 33.3% ($p > 0.05$) y CLz/F disminuyó 61.3% ($p < 0.05$) en comparación con el control grupo. Esos resultados indicarían que CKI puede reprimir el metabolismo de icotinib y mejorar significativamente la concentración de icotinib en ratas, lo que puede estar relacionado con su efecto de inhibición sobre CYP450.

KEY WORDS: Compound kushen injection, Icotinib, UPLC-MS/MS, Pharmacokinetics.

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ISSN 0326 2383 (printed ed.)
ISSN 2362-3853 (on line ed.)