

Pharmacokinetics of Different Pharmaceutical Nano Curcumin Products by Oral Administration

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ABSTRACT

Curcumin has shown several potential pharmacological activities but it is limited on clinical application due to its poor bioavailability. Nano curcumin products have been investigated with purpose to increase curcumin's bioavailability. Recently, for the first time, nanocurcumin was formulated in effervescent tablet (commercially available as SCurma Fizzy™). The aim of this study was to compare the pharmacokinetic parameters of this novel formulation of nanocurcumin and traditional formulation. In this study, the pharmacokinetic parameters of nanocurcumin in effervescent tablet, hard capsule and soft capsule in rats with a dose of 150 mg curcumin/kg body

weight were investigated. The method to determine curcumin's concentration was validated and the concentration of curcumin in rat's plasma was examined at pre-dose (0 min), 30, 60, 120, 150, 180 min after administration of curcumin. This data showed that the SCurma Fizzy tablet significantly improved the curcumin's concentration in plasma as compared with others products studied. In conclusion, the results suggested that effervescent tablet for nanoparticulate curcumin is recommended formulation to improve its bioavailability and therefore pharmacological activities.

KEYWORDS: Nanocurcumin; Oral absorption; Pharmacokinetics; Effervescent; Bioavailability.