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Dose prediction of fingerroot extracts for anti-periodontitis by allometric scaling

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Boesenbergia pandurata, known as fingerroot, is a sort of ginger distributed in China and Southeast Asia. Fingerroot has been widely used as a traditional medicine for fever, pain, stomatitis, and so on. Several pharmacological effects including antibacterial, anti-inflammatory, antioxidant, anti-cancer and antiviral activities were recently reported. The present work was designed to suggest a first-in-human dose for the treatment of gum related complications by allometric scaling. Pharmacokinetic profiles of panduratin A, the main active component of fingerroot were investigated in mice, rats and dogs after an oral administration of fingerroot extract at 200 mg/kg; clearances (Cl/F) were calculated to be 0.14, 0.87 and 28.29 L/h, respectively. Following the incorporation of maximum life-span potential to improve the predictability, clearance of panduratin A in humans was estimated to be 0.85 L/h/kg. Based on the area under the curve required for anti-periodontitis activity in a rat model, the doses of panduratin A and fingerroot extracts were calculated and extrapolated, respectively. A dose of 1800 mg/day as fingerroot extracts was finally proposed for a clinical trial in adults with pseudo-periodontitis, and the study is still under investigation in several dental clinics.

Biography

Seungmok Choi was the Reader of *in-vivo* pain screening part in Biopharm Solutions company. He has completed his Bachelor's degree at Konkuk University from South Korea. Currently, he is pursuing his Master's degree focusing on PK/PD modeling and simulation at Chung-Ang University.

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