

Prospective drugs on the basis of bioactive phenolic compounds from some plants of Georgian flora

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Abstract

Plants due to their ability to avoid detrimental conditions by removing themselves from the source of danger, have evolved as a whole battery of protective compounds including (poly)phenols. This encouraged us to study chemical composition of *Rhododendron ungeronii* Trautv. and *Pueraria hirsuta* Matsum. The chemical investigation of *R. ungeronii* revealed that its leaves are rich in phenolics like quercetin, quercitrin, hiperin, rutin, (+)-catechin, (-)-epicatechin, (+)-gallo catechin, leucoanthocyanidin, etc. An ointment, Rodopes which is for external application containing 5% of active substance fraction of phenolic compounds from the leaves of *R. ungeronii*, which was developed at the I Kutateladze Institute of Pharmacochemistry and approved for treatment of *Herpes virus* induced disorders. In order to extend the clinical application of Rodopes, its wound healing potential was studied in an excision wound model in mice. In Rodopes-treated animals, faster regeneration of tissues and wound closure is observed due to increased infiltration of macrophages, neutrophils, and fibroblasts in the wound bed. Rodopes accelerates scab rejection and full re-epithelization with no signs of bacterial contamination and contributes to form smooth soft scars disappear in 1-2 days. The dry extract of *Pueraria hirsuta* leaves containing mainly robinin (up to 1.7 %) and other flavonoid glycosides such as rutin, nicotiflorin, daidzin appeared capable to decrease blood levels of urea, residual nitrogen, and creatinine in both intact rats and in rats with a model acute renal failure caused by mercury dichloride. The obtained results suggest the application of *P. hirsuta* dry extract for treatment of acute renal failure.

Biography

N Kavtaradze is a Research Scientist at Tbilisi State Medical University I Kutateladze Institute of Pharmacochemistry. She has done her PhD in Pharmacy in 2005 and her research interest includes the natural biologically active Polyphenols and Cycloartanic compounds. She has published 26 papers in peer-reviewed journals, made 21 presentations at international scientific meetings, and has 3 patents.

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