

Phenolic Compounds of *Pentaphylloides fruticosa* (L.) O.Schwarz and Their Antiviral and Immunostimulative Activities

Tamara A. Volkhonskaya, Nikolay M. Shkel, Elena P. Khramova, Oleg R. Grek, Alexander N. Evstropov

Central Siberian Botanical Garden, Siberian Branch of the Russian Academy of Sciences

630090, Novosibirsk, Zolotodolinskaya st., 101, RUSSIA

Institute of Clinical and Experimental Medicine, Russian Academy of Medical Sciences

630117, Novosibirsk, Timakova st., 2, RUSSIA

Phenolic compounds are widespread in nature and compose an important part of medicinal plant wealth. It is a class of compounds with low toxicity, physiological activity and a wide range of therapeutic effects. *Pentaphylloides fruticosa* belongs to a large group of plants which are of medicinal and food values due to high content of phenolic compounds and different biologically active substances in them. Quercetin, kaempferol, quercitrin, 7,3',4'-three-O- methylquercetin, quercetin 6"-gallate-3-O- β -D-galactopyranoside, quercetin 3-O- β -l-L-arabopyranoside, quercetin 3-O- β -D-galactopyranoside (hyperoside), kaempferol 3-O- β -D-glucopyranoside (astragalin), quercetin 3-O- β -D-glucopyranoside (isoquercitrin), terniflorin, tribulozide, tannins, vitamins, organic acids and microelements have been found by us and other researchers in this plant.

Our attention was directed at study of not only component composition of flavonols but also at their metabolism for introduction of this plant valuable for prevention and treatment of many diseases of this century. It has been shown that qualitative content of flavonols is identical in the wild and introduced plants and the level of their accumulation depends on the phase of vegetation, the age and generations of plants and habitats of growing.

We have obtained a polyphenolic complex from *P.fruticosa* with high biological activity. Its activity to enterovirus ECHO II (chemiotherapeutic index CTI=2) and COXAKI B 3 (CTI=4) has been established for the first time. The enterovirus COXAKI B 3 is characterised by significant ability to affect the heart and pancreas of a man and enterovirus ECHO II can provoke the eye diseases of children. That is why we can use this polyphenolic complex for tests on therapeutic effect in experimental models of virus diseases.

It has been established for the first time that polyphenolic complex increases the formation of antibodies and the number of cells with antibody formation ability and secreting antibody IGM. As a result, body protective ability and resistance to different infectious diseases increase. Preclinical study of antiviral and immunostimulative activities of polyphenolic complex is being planned.