ABSTRAKT

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Reactive oxygen species play a key role in the patophysiology of renal diseases.

The kidney is an organ highly vulnerable to damage caused by reactive oxygen species. Oxidative stress mediates a wide range of renal impairments, from acute renal failure, rhambdomyolysis, glomerular damage, obstructive nephropathy, hyperlipidemia to chronic renal failure and hemodialysis.

This study examinated flavonoids contained in extracts of *Epilobii herba* and *Ononidis radix* as scavengers of superoxide radical.

Extract of *Epilobii herba* is used in the treatment of the first symptoms of benign prostatic hyperpasia. It inhibits the intracellular prostatic enzymes 5 – α – reductase, which converts testosterone to dihydrotestosterone. It has anti – inflammatory effect too. *Ononidis radix* is component of a lot of diuretic and urologic tea mictures. This drug facilitates urine secretion, lowers risk of creation gravel and stones renal in kidney and in bladder.

The aqueous extracts of *Epilobii herba* and *Ononidis radix* and the aqueous extracts of selected flavonoids contained in diuretic acting drugs were tested. Superoxide radical was generated by the NADH/PMS system in phosphate 19 mM buffer, pH 7,4.

Flavonoids were quantified by spectrophotometry and HPLC. *Epilobii herba* contains 0,4827 ± 0,0586 % quantified as hyperosid; main compouns in aqueous extract were these flavonoids: myricitrin 0,07 %, quercitrin 0,08 %, rutin 0,08%. *Ononidis radix* contains 0,1657 ± 0,0047 % quantified as hyperoside; main compouns in aqueous extract were these isoflavonoids: genistin 0,02 %, diadzein 0,02 %, biochanin A 0,02 % and coffee acid 0,01 %.

The activity of other tested flavonoids against superoxide radical is decreasing in this sequence: hyperosid 13,96 µg/ml, myricitrin 32,08 µg/ml, rutin 271,65 µg/ml.

Epilobii herba and *Ononidis radix* extracts induced scavenger of superoxide radical in a concentration – dependent manner (*Epilobii herba* IC_{50} 74,25 µg/ml, *Ononidis radix* IC_{50} 691,50 µg/ml).