Comparative pharmacodynamic and HPLC study of *Hypericum perforatum* L.

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Herb-drug interactions are an important safety concern and this study was conducted regarding the interaction between the natural top-selling antidepressant remedy *Hypericum perforatum* and conventional drugs. This study examined the influence of acute pretreatment with different *H. perforatum* preparations on pentobarbital-induced sleeping time and impairment of motor coordination caused by diazepam. The preparations profile of St. John’s wort was determined using RP-HPLC analysis.

Ethanolic extract, aqueous extract, infusion, tablet and capsule of *H. perforatum* were used in the experiment. By quantitative HPLC analysis of active principles, it has been proved that *H. perforatum* ethanolic extract has the largest contain of naphtodianthrones: hypericin (57.77 µg/ml) and pseudohypericin (155.38 µg/ml). Pretreatment with ethanolic extract exhibited statistically significant effects on the CNS, by increasing sleeping time from 60 min to 120 min. Every examined preparation, except infusion, caused significant stimulation of myorelaxant activity of diazepam in 15th min in relation to control. Pretreatment with ethanolic extract of *H. perforatum* potentiated hypnotic effect of pentobarbital and impairment of motor coordination caused by diazepam in the greatest extent in comparison to the control group. These results were in correlation to naphtodianthrones concentration.

The obtained results have shown a considerable influence of *H. perforatum* on pentobarbital and diazepam pharmacodynamics.