

MEETING ABSTRACT

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# Influence of different *Hypericum perforatum* L. preparations on pharmacokinetic and pharmacodynamic properties of pentobarbital, diazepam and paracetamol

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From 18th Scientific Symposium of the Austrian Pharmacological Society (APHAR). Joint meeting with the Croatian, Serbian and Slovenian Pharmacological Societies. Graz, Austria. 20-21 September 2012

## Background

Herb–drug interactions are an important safety concern and the study was conducted regarding the interaction between the natural top-selling antidepressant remedy *Hypericum perforatum* and conventional drugs.

## Methods

This study examined the influence of acute pretreatment with different *H. perforatum* extracts on pentobarbital-induced sleeping time impairment of motor coordination caused by diazepam and paracetamol pharmacokinetics in mice. 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.

## Results

By quantitative HPLC analysis of active principles, it has been proved that *H. perforatum* ethanolic extract has the largest content of naphthodianthrones: hypericin (57.8 µg/ml) and pseudohypericin (155.4 µg/ml). Pretreatment with ethanolic extract of *H. perforatum* potentiated the hypnotic effect of pentobarbital and the impairment of motor coordination caused by diazepam to the greatest extent and also increased the paracetamol plasma concentration in comparison to the control group. These results were in correlation to naphthodianthrones concentrations.

## Conclusions

The obtained results show a considerable influence of *H. perforatum* on pentobarbital and diazepam pharmacodynamics and paracetamol pharmacokinetics.

## Acknowledgements

This work was supported by the Provincial Secretariat for Science and Technological Development, Autonomous Province of Vojvodina, project no. 114-451-2458/2011.

Published: 17 September 2012

doi:10.1186/2050-6511-13-S1-A11

Cite this article as: Rašković et al.: Influence of different *Hypericum perforatum* L. preparations on pharmacokinetic and pharmacodynamic properties of pentobarbital, diazepam and paracetamol. *BMC Pharmacology and Toxicology* 2012 **13**(Suppl 1):A11.

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