

Conference abstract PO-70

## **Uterus activity of the Mongolian Medicinal Plant *Dianthus versicolor* FISCH.**

**A. OBMANN<sup>1</sup>, B. WEISZ-PECHER<sup>2</sup>, P. RAWNDUZI<sup>2</sup>,  
C. KLETTER<sup>1</sup>, R. LEMMENS-GRUBER<sup>2</sup>, S. GLASL<sup>1</sup>**

<sup>1</sup> Department of Pharmacognosy, University of Vienna, Althanstraße 14, 1090, Vienna, Austria

<sup>2</sup> Department of Pharmacology und Toxicology, University of Vienna, Althanstraße 14, 1090, Vienna, Austria

E-mails: astrid.obmann@univie.ac.at (A. Obmann), wbirgit@aon.at (B. Weisz-Pecher),  
pakiza.rawnduzi@univie.ac.at (P. Rawnduzi), christa.kletter@univie.ac.at (Ch. Kletter),  
rosa.lemmens@univie.ac.at (R. Lemmens-Gruber), sabine.glasl@univie.ac.at (S. Glasl)

Sci Pharm. 2009; 77: 269

doi:10.3797/scipharm.oephg.21.PO-70

*Dianthus versicolor* FISCH. is used in Mongolia as uterus constricting agent. It is recommended after birth in order to remove the rest of the placenta and during lochia [1]. Aqueous preparations of the aerial parts are applied successfully in humans and animals. In order to confirm this ethnopharmacological report an infusion was prepared according to the traditional prescription and tested on the following isolated preparations of the guinea pig: uterus, arteria pulmonalis, aorta, papillary muscle, right atrium and terminal ileum. The effect of the aqueous extract on force of contraction ( $f_c$ ) and spontaneous frequency of contraction ( $f$ ) was tested at three different concentrations (1 mg/mL, 3 mg/mL and 9 mg/mL).

*D. versicolor* concentration-dependently increased  $f_c$  and  $f$  of the uterus. At 9 mg/mL even resting tension was enhanced markedly. In contrast, the effects on other smooth muscle preparations like aorta and terminal ileum, and on heart preparations (papillary muscle, right atrium) were negligible. However, the arteria pulmonalis showed a remarkable increase in  $f_c$  at the highest concentration tested (9 mg/mL). All the effects were found to be reversible. Summing up, the contractile effect of *D. versicolor* on the uterus was confirmed. High doses of an aqueous extract might additionally increase the contractility of the arteria pulmonalis, therefore the proper dosage plays an important role.

The aqueous extract was prepared by shaking 100 g aerial parts (powdered) gently with 2500 mL water adjusted with trifluoroacetic acid to pH 2 for 1h at 40°C. The volatile acid was removed under vacuum, the remaining solution was freeze dried and yielded 21,3 g aqueous extract (DER: ~5:1). Force of contraction of isolated preparations was measured isometrically in Krebs-Henseleit Solution at 37°C. An appropriate resting tension was applied to allow maximal contractility of the preparations. After a control period the extract was added cumulatively every 45 min after steady-state had been reached.

- [1] Boldsai Khan B. Encyclopedia of Mongolian medicinal plants. Vol. 1, 2<sup>nd</sup> ed., Mongolian University of Science & Technology, System Science Research Institute, Ulaanbaatar, 2004.