A179 Analgesic and diuretic activity of *Scolymus hispanicus* L.

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Traditionally, *Scolymus hispanicus* L. (Compositae), a typical thistle of uncultivated growing in the Mediterranean region and in South-Eastern Europe, have been used as a diuretic and choleretic drug (1, 2) and, occasionally, in the treatment of venous diseases in folk medicine.
The analgesic and diuretic effects of underground parts of *S. hispanicus* aqueous extract were evaluated.
For antinociceptive activity, hot plate test was used. The extract (1,2 and 2,4 g plant/kg) was administered intraperitoneally to Swiss mice. Data showed an interesting and statistically significant analgesic effect with the highest dose (79,5 %), which was similar to that exhibited by 10 mg morphine/kg.
The phytochemical investigation of *S. hispanicus* led to the isolation of isobutylamine. This compound was tested for it analgesic activity at 10 and 40 mg/kg, in the same way as aqueous extract. A dose-dependent analgesic effect was obtained, with a maximum response at 90 minutes (46,6 and 74,4 % for each dose).
Antinociceptive activity of roots could be due, in part, to the presence of isobutylamine.
Diuretic activity was evaluated in isotonic loaded rats. Doses of 2,4 and 12,5 g plant/kg by oral administration were used. No significant response was obtained with the lower dose, but a moderate diuretic activity was observed with the highest (28,2 % as urinary excretion percentage).
Traditional use of this plant as a diuretic is justified by the results obtained. And more importantly, an interesting analgesic effect has been shown. This can be useful in the popular use of the plant in the treatment of venous diseases, relief from pain usually occurs .

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A180 A metabonomic investigation of the biochemical effects of dietary phytoestrogens

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A metabonomic approach based on ^{1}H-NMR and Chemometric analysis (1) was applied to the investigation of the biochemical effects of a diet rich in soy protein isoflavones in six pre-menopausal women. A large body of research indicates that soy phytoestrogen containing foods may play a role in lowering risk of many western diseases including osteoporosis (2), coronary heart disease (2), kidney disease (2) and hormonal dependent cancers (2), via various mechanisms including hormonal activity and antioxidative action (2).
In order to investigate the biochemical effect of a soy rich diet, complete 24 h urine samples were collected, under carefully controlled conditions, at three day intervals throughout a complete menstrual cycle. During the first menstrual cycle, the six subjects consumed a soy free diet. During a second complete menstrual cycle they consumed a diet containing 60 g/day soy. Standard 1-dimensional ^{1}H NMR spectra of the urine samples were acquired and chemometric analysis applied to these data in order to investigate changes in urinary biochemical profiles.
The metabonomic analysis of the spectral data highlighted the spectral regions that varied on soy consumption. Visual analysis of these regions enabled identification of metabolite modification due to soy consumption. These perturbations were related to largely to trimethyamine-N-oxide, however minor variation in creatinine and creatine were apparent suggesting changes in renal function (3). In addition distinctive metabolite variations in glucose, citrate, and endogenous methylamine and glutamine pathways a long with variations in choline and acetate inferred modification in energy metabolism. The results indicated that soy intervention produced a shift in energy metabolism from carbohydrate to lipid/amino acid, furthermore these changes may consequently influence kidney function and free radical production (4).

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