Antiviral effect of aqueous extracts from species of the Lamiaceae family against Herpes simplex virus type 1 and type 2 in vitro.

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Aqueous extracts from species of the Lamiaceae family were examined for their antiviral activity against herpes simplex virus (HSV). Extracts from lemon balm (Melissa officinalis), peppermint (Mentha × piperita), prunella (Prunella vulgaris), rosemary (Rosmarinus officinalis), sage (Salvia officinalis) and thyme (Thymus vulgaris) were screened. Their inhibitory activity against herpes simplex virus type 1 (HSV-1), type 2 (HSV-2) and an acyclovir-resistant strain of HSV-1 (ACV (res)) was tested in vitro on RC-37 cells in a plaque reduction assay. The 50% inhibitory concentrations (IC (50)) of the extracts for HSV plaque formation were determined in dose-response studies. All test compounds showed a high antiviral activity against HSV-1, HSV-2 and ACV (res). In order to identify the mode of antiviral action, the extracts were added to the cells or viruses at different stages of infection. Both types of HERPES virus including ACV (res) were considerably neutralized after treatment with the extracts prior to infection. At maximum non-cytotoxic concentrations of IC (50) of the extracts for HSV plaque formation were significantly reduced by >90% for HSV-1 and HSV-2 and >85% for ACV (res). In time-response studies over a period of 2 hours, a clearly time-dependent activity was demonstrated. These results indicate that the extracts affect HSV before adsorption, but have no effect on the intracellular virus replication. Therefore, the extracts exert their antiviral effect on free HSV and offer a chance to use them for topical therapeutic application against recurrent herpes infections.


Background: Capsicum plaster has been used to supplement opioid analgesics for postoperative pain control. We designed this double-blind, sham-controlled study to assess the effectiveness of capsicum plaster (PAS) at Zusanli (ST-36) acupoints on postoperative opioid analgesic requirement, side effects, and recovery profile.

Methods: Ninety women undergoing total abdominal hysterectomy were randomly assigned to 3 treatment regimens (n = 30 each): group Zusanli = PAS at Zusanli acupoints, group sham = PAS at the nonacupoints on the shoulders, and group control = placebo tape at Zusanli acupoints. The PAS was applied before induction of anesthesia and maintained for 8 hours per day for 3 postoperative days.

Results: The total amount of morphine administered in the first 24 hours after the operation was significantly decreased in Zusanli (31.5 ± 6.8 mL) compared with groups control (44.3 ± 10.1 mL) and sham (44.6 ± 0.4 mL) (P < 0.01). The incidence of postoperative side effects and the use of rescue antiepiphysed during the 72 hours after surgery were significantly reduced in group Zusanli compared with other groups (P < 0.01).

Conclusion: PAS at Zusanli points decreased postoperative opioid requirement and opioid-related side effects of patients undergoing abdominal hysterectomy.


Objective: This randomised, double-blind, parallel group phase II/III study with adaptive two-stage design and interim analysis compared the

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efficacy and tolerability of spray (containing a Salvia officinalis fluid extract) against placebo in the treatment of patients with acute viral pharyngitis.

**Study participants:** In two study parts, a total of 286 patients with subjective and objective evidence of pharyngitis were randomized. In the first study part 122 patients were enrolled. In the second study part 164 patients were included. The treatment duration per patient was 3 days, including one baseline visit and one final visit.

**Main outcome measures:** Area under Curve for change of throat pain intensity (spontaneous pain), documented every 15 min within the first 2 h after the first application as compared to baseline using a visual analog scale (VAS 100 mm).

**Results:** Following the interim analyses of the first study part the 15% spray containing 140 µl sage extract per dose was the most promising preparation for the second study part (main study) whereas for the 30% and the 5% preparation results made superiority over placebo unlikely in the final analysis. Overall, the 15% spray was significantly superior to placebo for the primary efficacy variable with regard to a reduction of the throat pain intensity score. Only minor side effects such as dry pharynx or burning of mild intensity were seen.

**Conclusions:** The efficacy and tolerability profile of a 15% sage spray indicated that this preparation provides a convenient and safe treatment for patients with acute pharyngitis. A symptomatic relief occurred within the first 2 h after first administration and was statistically significantly superior to placebo.


Salvia officinalis (sage) has previously been shown both to possess in vitro cholinesterase inhibiting properties and to enhance mnemonic performance and improve mood in healthy young participants. In this double-blind, placebo-controlled, crossover study, 30 healthy participants attended the laboratory on three separate days, 7 days apart, receiving a different treatment in counterbalanced order on each occasion (placebo, 300, 600 mg dried sage leaf). On each day mood was assessed predose and at 1 and 4 h postdose. Each mood assessment comprised completion of Bond-Lader mood scales and the State Trait Anxiety Inventory (STAI) before and after 20 min performance of the Defined Intensity Stress Simulator (DISS) computerized multitasking battery. In a concomitant investigation, an extract of the sage leaf exhibited dose-dependent, in vitro inhibition of acetylcholinesterase and, to a greater extent, butyrylcholinesterase. Both doses of sage led to improved ratings of mood in the absence of the stressor (that is, in pre-DISS mood scores) postdose, with the lower dose reducing anxiety and the higher dose increasing ‘alertness’, ‘calmness’ and ‘contentedness’ on the Bond-Lader mood scales. The reduced anxiety effect following the lower dose was, however, abolished by performing the DISS, with the same dose also being associated with a reduction of alertness during performance. Task performance on the DISS battery was improved for the higher dose at both postdose sessions, but reduced for the lower dose at the later testing session. The results confirm previous observations of the cholinesterase inhibiting properties of S. officinalis, and improved mood and cognitive performance following the administration of single doses to healthy young participants.


Malodorous necrotic ulcers in cancer patients are of major concern as it leads to social isolation and poor quality of life. Current medications and topical therapies have proven inadequate in their ability to reduce foul smell to acceptable levels. We report the positive experience we have had in using antibacterial essential oils in patients with incurable head and neck cancer and associated malodorous necrotic ulcers. All patients received a standard course of therapy with oral or systemic antibiotics. In addition, we rinsed the ulcers with an antibacterial essential oil mix (mainly based on Eucalyptus oil) twice a day. All patients experienced complete resolution of the foul smell by only the third or fourth day of therapy. As a secondary effect we saw that besides smell reduction the oils had anti-inflammatory effects on neoplastic ulcers. In some patients ulcers started to heal and achieved complete re-epithelialization. The patients experienced great personal relief upon resolution of their malodorous conditions. Quality of life improved significantly with the resulting reintroduction of social contact with friends and relatives.


Oxidative stresses are increasingly implicated in the pathogenesis of diabetic complications which may either cause direct pancreatic β-cell damage or lead to metabolic abnormalities that can induce or aggravate diabetes. The valuable effect of antioxidant nutrients on the glycemic control of diabetic patients has been reported in experimental and clinical studies.

The present study was designed to investigate the effects of the herbal medicine, *Silybum marianum* seed extract (silymarin), which is known to have antioxidant properties on the glycemic profile in diabetic patients. A 4-month randomized double-blind clinical trial was conducted in 51 type II diabetic patients in two well-matched groups. The first group (n = 25) received a silymarin (200 mg) tablet 3 times a day plus conventional therapy. The second group (n = 26) received the same therapy but a placebo tablet instead of silymarin. The patients were visited monthly and glycosylated hemoglobin (HbA1c), fasting blood glucose (FBG), insulin, total cholesterol, LDL and HDL, triglyceride, SGOT and SGPT levels were determined at the beginning and the end of the study. The results showed a significant decrease in HbA1c, FBG, total cholesterol, LDL, triglyceride, SGOT and SGPT levels in silymarin treated patients compared with placebo as well as with values at the beginning of the study in each group. In conclusion, silymarin treatment in type II diabetic patients for 4 months has a beneficial effect on improving the glycemic profile.


Don Quixote, the most outstanding novel of the Spanish literature, represents a documentary source widely used among those specialists who tend to deepen in the knowledge of the late Renaissance society. In this sense, Don Quixote has been also studied from a medical perspective, including a general therapeutical view (oils, ointments, balms, poultices, syrups and other pharmacy preparations). We have tackled Don Quixote from the phytotherapeutic and ethnopharmacological perspective, a barely explored field. In this work, we intend to study the medicinal plants used during the Cervantine time for the treatment of multiples diseases (sedatives like opium, laxatives and emetics like hellebore, tonics and irritants) and we analyze the specific herbal therapies (balms, purgatives and emetics, ointments and poultices), which Cervantes reveals to us in his novel. Among them, the rhubarb root (Rheum spp. or Rumex spp.) should be highlighted, as well as the seeds of gopher spurge (Euphorbia lathyris), chicory (Cichorium intybus) and rosemary (Rosmarinus officinalis), primary component of the famous Balsam of Fierabras. Also, we have examined the possible scientific influences, which might have inspired Cervantes in this field, mainly the work of Andreas Laguna (Dioscorides’ Materia Media).