

## Consumption of aqueous garlic extract can protect benign prostate hyperplasia and prostate cancer

The scientists of Urology Departments at Turkey studied the effect of consumption of aqueous garlic extract to see its effect on improvement in patients with benign prostate hyperplasia (BPH) and prostate cancer (PC).

Patients consumed aqueous garlic extract at the daily amount of 1 ml/kg weight for a month and then, pre- and post- disease parameters were examined. Mass of prostate was significantly lowered

in the BPH group after extract consumption. Urinary frequency was established to be decreased, maximum and average rates of urine flow significantly increased after experimental period. In the cancer group, significantly lowered total and free PSA values were measured after extract consumption. No change was however observed in the mass of prostate of this group. The parameters of urinary frequency, maximum and

average rates of urinary flow were also established to be significantly improved in the cancer group. Results suggest that garlic extract supplementation leads to significant improvement in disease parameters of the patients with BPH and PC. However, possible molecular mechanism(s) leading to this end needs to be clarified by further studies [Durak *et al*, *Nutr Res*, 2003, **23**(2), 199-204].

## Antioxidant and free radical scavenging activities of Chebolic Myrobalan

Dried ripe fruits of *Terminalia chebula* Retz. (Hindi– *Harad*) have traditionally been used to treat various ailments in Asia. They exhibit a variety of biological activity, including anticancer, antidiabetic, antimutagenic, antibacterial, antifungal and antiviral activities, etc. Researchers of Graduate Institute of Pharmaceutical Science, and Graduate Institute of Natural Products, College of Pharmacy, Kaohsiung, Taiwan and Department of Pharmacy, Tajen Institute of Technology, Ping-Tung, Taiwan, studied the antioxidant activity of chebolic myrobalan and its pure compounds. In this study, 6 extracts and 4 pure compounds (casuarinin, chebulanin, chebulinic acid, and 1,6-di-O-galloyl- $\beta$ -D-glucose) of *T. chebula* were evaluated for anti-lipid peroxidation, anti-superoxide radical formation and free radical scavenging activities. The superoxide radical scavenging of the 4 pure compounds was further evaluated using electron spin resonance (ESR) spectrometry. The results showed that all tested extracts and pure compounds of *T. chebula* exhibited antioxidant activity at different magnitudes of potency. The antioxidant activity of each pure compound was derived from different pathways and was suggested to be specific. Some previously reported biological activities of *T. chebula* were possibly partially related to its antioxidant activity [Cheng *et al*, *Biol Pharm Bull*, 2003, **26**(9), 1331-1335].

## Anti-HIV agent from *Ailanthus altissima* Swingle

In order to search for the anti-HIV agents from natural products, Pharmacologists at College of Pharmacy, Republic of Korea prepared eighty methanolic extracts of medicinal plants and applied to a syncytia formation inhibition assay which is based on the interaction between the HIV-1 envelope glycoprotein gp120/gp41 and the cellular membrane protein CD4 of T lymphocytes. Among them, *Ailanthus altissima* (Ailanto or Tree of Heaven) showed a potent virus-cell fusion inhibitory activity. Repeated column chromatography of the methylene chloride fraction of *A. altissima* afforded compounds  $\beta$ -sitosterol-3-O- $\beta$ -D-glucoside, tetramethoxycoumarin, and ocotillone. Virus-cell fusion inhibitory activity of compound ocotillone was 70.76, 4.09% at the concentration of 100  $\mu$ g/ml [Chang *et al*, *Kor J Pharmacogn*, 2003, **34**(1), 28-32].



### Analgesic and antihyperalgesic activities of *Anisomeles indica*

According to Sri Lankan traditional medicine, a decoction made from stems and leaves of *Anisomeles indica* Kuntze (Family—*Lamiaceae*) possesses analgesic activity. To validate this claim scientifically researchers working at Department of Zoology, University of Colombo, Sri Lanka and Department of

Biochemistry and Clinical Chemistry, University of Kelaniya, Ragama, Sri Lanka carried out studies to investigate analgesic and antihyperalgesic activities of this plant using a water extract made from the leaves and stems. The results provide scientific support for the use of *A. indica* as an analgesic in the traditional medicine of Sri

Lanka. However, it is essential to use pre-flowering plants to induce analgesic or antihyperalgesic effects. It may be possible to develop a potent analgesic and antihyperalgesic drug with minimum side effects from *A. indica* [Dharmastri *et al*, *Pharm Biol*, 2003, **41**(1), 37-44].

### Leaves of *Passiflora incarnata* show Central Nervous System Effects

Passion flower, *Passiflora incarnata* Linn. (Family—*Passifloraceae*), also known as Maypops or Maraciya has been used all over the world for the treatment of anxiety, insomnia, epilepsy, muscular spasms, and many other allied diseases. It is also an important homoeopathic medicine for the treatment of various disorders of CNS. Researchers working at Pharmacognosy Division, University Institute of Pharmaceutical Sciences, Panjab University, Chandigarh evaluated the methanolic extract of leaves of *P. incarnata* for various CNS effects in experimental animals. The extract exhibited significant sedative, anticonvulsant and CNS-depressant activities at a dose of 200mg/kg in mice. The extract also exhibited analgesic and anti-inflammatory activities against acetic acid-induced pain and carrageenan-induced oedema, respectively, when evaluated in experimental animals. The extract has significant anti-inflammatory activity at 400mg/kg dose, which is as good as that of a 150mg/kg dose of acetyl salicylic acid [Dhawan *et al*, *Pharm Biol*, 2003, **41**(2), 87-91].

### Antidiabetic activity of *Deshi badam*

In addition to many modern medicines there are very effective traditional medicines available in public domain for the treatment of diabetes. *Terminalia catappa* Linn. (Hindi—*Deshi badam*) is found throughout the warmer parts of India and called as Indian Almond, Malabar Almond or Tropical Almond. The leaves, bark and fruits of the tree possesses medicinal properties. In view of alleged antidiabetic potential of its fruits scientists at Pharmacy Group, Birla Institute of Technology and Sciences, Pilani, Rajasthan and Pharmacology Department, S.C.S. College of Pharmacy, Harapanahalli, Karnataka, India have investigated effect of extracts of its fruit on fasting blood sugar levels and serum biochemical. The extracts produced a significant antidiabetic activity at dose levels 1/5 of their lethal doses. Concurrent histological studies of the pancreas of experimental animals showed comparable regeneration by methanolic and aqueous extracts which were earlier, necrosed by alloxan [Nagappa *et al*, *J Ethnopharmacol*, 2003, **88**(1), 45-50].

## Anti-inflammatory and Anti-arthritic triterpene from *Thor*

*Euphorbia neriifolia* Linn. (Hindi – *Thor*) is an erect, succulent cactus plant with small pinkish flowers, planted as a field and boundary fence and on rockeries in gardens and verandahs. The latex is used as rubefacient in tooth troubles and for cutaneous eruptions.

Scientists at Division of Natural Products, Aligarh Muslim University have

isolated a novel triterpene, 9, 19-cyclolanost – 20(21) en-24-ol-3-one named as neriifolione and cycloartenol from its latex.

The petrol, benzene and acetone extracts of the latex and isolated compounds were tested for anti-inflammatory and anti-arthritic effects by carrageenan oedema test, taking

Piroxicam as the standard drug. Positive results were obtained both from crude latex and isolated compounds. Neriifolione showed same efficacy as cycloartenol but less promising clinically than latter [Ilyas *et al*, *Hamdard Med*, 2003, **46**(2), 97-102].

## Antiulcerogenic seaweed

*Sargassum polycystum* C.Ag., a marine brown alga found in Gulf of Mannar, Rameswaram, was collected by researchers at Department of Biochemistry and Molecular Biology, University of Madras, Chennai to evaluate efficacy of its hot water extract against HCl-ethanol induced gastric mucosal injury in rats.

Effect of pre-treatment with hot water extract of marine brown alga *S. polycystum* (100 mg/kg body wt, orally for period of 15 days) on HCl-ethanol (150 mM of HCl-ethanol mixture containing 0.15 N HCl in 70% v/v ethanol given orally) induced gastric mucosal injury in rats was examined with respect to lipid peroxides, antioxidant enzyme status, acid/pepsin and glycoproteins in the gastric mucosa. The levels of lipid peroxides of gastric mucosa and volume, acidity of the gastric juice were increased with decreased levels of antioxidant enzymes and glycoproteins were observed in HCl-ethanol induced rats. The rats pre-treated with seaweed extract prior to HCl-ethanol induction reversed the depleted levels of antioxidant enzymes and reduced the elevated levels of lipid peroxides when compared with HCl-ethanol induced rats. The levels of glycoproteins and alterations in the gastric juice were also maintained at near normal levels in rats pre-treated with seaweed extract. The rats given seaweed extract alone did not show any toxicity, which was confirmed by histopathological studies. These results suggest that the seaweed extract contains some anti-ulcer agents, which may maintain the volume/acidity of gastric juice and improve the gastric mucosa antioxidant defense system against HCl-ethanol induced gastric mucosal injury in rats [Raghavendran *et al*, *Arch Pharm Res*, 2004, **27**(4), 449-453].

## *Tesu* seed oil showed anti-inflammatory activity

In Indian system of medicine *Tesu*, *Butea monosperma* (Lam.) Kuntze seeds are used for various diseases. To revalidate the traditional use of seeds and fruits for inflammation, researchers at Department of Pharmaceutical Sciences, Thiruvannamalai, Kolkata and Hisar undertook a study on phytochemical and anti-inflammatory activity of fixed oil obtained from seeds against carrageenan-induced paw oedema and cotton pellet-induced granuloma in rats.

The fixed oil, mixed fatty acids and unsaponifiable matter of the oil exhibited significant anti-inflammatory activity on tested animals. The unsaponifiable matter of the oil produced higher protection compared to fixed oil and mixed fatty acids. Phytochemical analysis revealed the presence of steroids and terpenoids while unsaponifiable matter of the oil showed the presence of  $\beta$ -sitosterol [Gunakunru *et al*, *J Nat Sci*, 2004, **10** (4), 55-58].