# APITHERAPY

Bee venom contains more than 40 pharmacologically active substances, many of which have yet to be studied. For centuries bee stings have been used to cure diseases such as Arthritis, Rheumatism, Gout, and many other painful joint conditions. Venom contains the protein 'Melittin' which stimulates Cortisol production from our adrenal glands. Cortisol is a natural anti-inflammatory and does not have the dangerous side effects of artificial steroids. Venom also contains 'Peptide 401' which is believed to be 100 times more powerful than cortico-steroids.

Currently bee venom is being used with some success to treat MS. The enzyme 'Hyaluronidase' dissolves scar tissue on the myelin sheath, improving synaptic transmission. Other benefits include improved circulation, better bladder control, less fatigue and a feeling of 'well-being'. Many other conditions have been successfully treated using bee venom including asthma, PMT, male impotence, psoriasis, epilepsy, ME, depression and some types of cancer.

The raw scientific data is scratchy but international studies are currently investigating the effects of bee venom on those afflicted by MS. It is thought that the active compounds in the venom break down the scar tissue that can form on the nerve sheaths as a result of an MS episode. Venom also appears to enhance synaptic transmission, increasing motor activity. All these appear to improve the neuro-functions of the nervous system and reduce the debilitating symptoms of MS.

Many flying insects have a venomous sting, but because the honeybee has been domesticated and is easy to raise, it is the one used most for treatment. Honeybee venom consists of the following known components:
MELLITIN:

- provides the "ouch" and the itch in bee venom
- has powerful bactericidal and cytotoxic properties
- produces the signs of inflammation via the release of histamine
- stimulates the pituitary to release ACTH, which stimulates the adrenal glands to produce cortisol, part of your body's own healing response
- is 100 times more potent as an anti-inflammatory agent than hydrocortisol, when tested in rats with arthritis (Nature, Nov. 1974)

MAST CELL DEGRANULATING PEPTIDE:

- leads to the release of histamine which creates the signs of inflammation (swelling, itching, redness, warmth)
- is the most powerful seizure-inducing agent known to man when injected into the brain (not cross blood brain barrier)
- increases short-term memory in rats (maze test)

APAMIN:

- blocks Ca2+ dependent K + channels
- enhances long-term synaptic transmission
- shortens duration of a nerve's action potential

HYALURONIDASE:

loosens the glue (a substance called hyaluronic acid) which connects cells thus making the tissue or extra-

cellular space more permeable. This facilitates the delivery of healing substances to and the elimination of waste or toxic substances from a damaged area.

DOPAMINE (neurotransmitter):

- a neurotransmitter that increases motor activity. It is deficient in Parkinson's patients and excessive in psychotic patients treated with neuroleptic drugs. Dopamine, along with Serotonin and other catecholamines are implicated as factors in major depression.

ADOLAPIN (neurotransmitter):

- Has an analgesic effect

# Effect of Apitherapy on Multiple Sclerosis

**Case Report from Taiwan Kaohsiung Apitherapy Association**

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Apitherapy had been well documented in Traditional Chinese Medicine for treating Systemic Immune Diseases, Allergic Diseases, Viral Diseases and Organic-Specific Inflammatory Diseases since more than one thousand years (Yu, S.C. 1999).

Through the rapid development of Information Technology (IT) and clinical immunology, medical scientist discovered that all living creatures have their own ways to protect their new generation. Human mother delivers her antibody to infant through placenta and human milk feeding. Bovine colostrums and milk also contains antibodies to protect the calf from bacterial and viral infections (Korhonen, H. 1995;.Chan,E.L. 1995). The yolk of Leghorn's egg contains Immunoglobulin-Y to protect the chick's embryo from viral infection. Bee's royal jelly and honey contains immunoglobulin to protect bee's larva form bacterial and viral infections. Hymenoptera (Apis mellifera) venom contains venom specific immunoglobins and cytokines provide effective immunothrapy for viral and bacterial infections.

Apitherapy in Taiwan is a new branch of medical science to combine the clinical trail experience in Traditional Chinese Medicine with the knowledge of clinical immunology and Biotechnology to apply in modern medicine.

## Apitherapy

Hymenoptera Venom Immunotherapy (HVIT)

Honeybee (A.Mellifera) was used in the treatment.

Allergy History:

A personal and family history of Hymenoptera venom, asthma, rhinitis, eczema, or food allergy, or adverse reactions to drugs should be established in al cases. Patient should be allowed to give their own accounts of all allergy history followed by structured prompts or questions to cover the essential points.
Skin Prick Test (SPT):

In negative Hymenoptera venom allergic patient, Skin Prick Test will be performed before course of formal HVIT treatment. After aseptic cleaning of the skin of the forearm, one honeybee sting (b.u.) was tested in the

forearm skin. Local dermal reactions and systemic allergic reactions to the Hymenoptera sting will be observed after 20 minutes to determine the cutoff point for separating patients with clinical symptoms on exposure to relevant allergen rather than subclinical sensitization alone.

§ ***Phase I: (Starting phase)***

Patient received HVIT, starting with 1.b.u.,administrated subcuntanously every two days. The dose of HYIT increased to 12.b.u. in 8 weeks after no local dermal or systemic allergic reactions were found.

§ ***Phase II: (Maintaining phase)***

Patient received 12 b.u. every two days to maintain the therapeutic dose.

Taiwanese oral propolis tincture ( Bee's BioTech, Taiwan), 800mg, twice daily.

Taiwanese Drone pupa (Bee's BioTech, Taiwan), 800mg,twice daily.

## Nutritional Support

Adequate nutrition is essential for health and for treatment of diseases. While poor nutrition status induce immune dysfunction, macrophage microbicidal function with decreased phagocytosis and impaired respiratory burst activity (superoxide anion generation). The cause of this appears to be depletion of critical membrane phospholipids, resulting in altered prostaglandin levels, nitric oxide production, signal transduction, and cytokine (interleukin-1,interleukin-6) production.(Rombeau,J.L.,2000 ).

Strict nutritional support with adequate essential nutrients supply will be monitored during the whole course of Apithrapy.

The nutritional supplements recommended during the course of HVIT treatment:

Hyperimmune Milk power (Stolle Corp., Ohio, USA), 1 package,twice a day

Centrum (Lederle Corp., USA),1 tablet daily.

Korean Taekuk Ginseng Power (Uper Corp., Korea) 500mg,twice a day.

Multiple sclerosis(MS), a common neurologic disorder, which probably has an autoimmune basis. The HVIT venom specific immunoglobins may regulate the human immune system to improve the autoimmune disorders. The continuing Apitherapy with adequate nutritional support may prevent the relapse or secondary progressive diseases result from multiple sclerosis.

The history of apitherapy in China has more than 2000 years. Because of the huge population in China, we have large amount of clinical trails record in apitherapy with all kinds of diseases for more than 2000 years. Through the rapid development of the database files in information technology, we find that this clinical record give us a great advantages in the research of the apitherapy. At the present time, apitherapy is using as a kind of immunotherapy in Taiwan. We have more than 200 outpatients daily treated with all kinds of diseases in our Apitherapy clinics. Furthermore, through the rapid development of the research of Biotechnology and Immunotherapy, we believe apitherapy will pay an important role in modern medicine in future. And we wish to share our Apitherapy experience with all the medical researchers in all other countries.

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