

Unique Methods of Apitherapy

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People take honey, pollen, propolis, royal jelly, bee bread and honeycomb orally to maintain dietetic health. Also, bee acupuncture is a form of apitherapy with characteristics of Chinese acupuncture; bee venom is injected intradermally, hypodermally and through muscle and other points. Further, various bee products are used to prevent disease, protect the skin and so on by combining them with formulations for external use. Bee product, for external use, is a good adjuvant in light therapy and electrotherapy to promote skin absorption, thus strengthening the therapeutically effect. Different bee products and their formulations have different applications. There are mainly four kinds of methods with special features, as discussed below.

Bee acupuncture

The use of sting organs to carry out different methods of needling along meridians and points to treat diseases is called bee acupuncture.

Bee acupuncture, a kind of Chinese acupunc-

ture, has been developed from the experience of folk sting and Chinese acupuncture. Bee acupuncture not only gives people mechanical stimulus, but it also provides a pharmacological effect by injecting the right amount of liquid into the skin automatically, then it can warm the needle with the accompanying symptoms of local redness and hyperemia. Bee acupuncture is a mixed type of Chinese acupuncture, combining needles, medicine and moxibustion; it overcomes side effects such as localized pain caused by folk apitherapy.

Bee acupuncture utilizes the *Apis mellifera* or *Apis cerana indica* bees bred in open cases.

1. Test points Doctors must test points carefully before performing bee acupuncture in order to avoid allergic reactions.

Removing needles. The straight-flat iris forceps and horological hairspring forceps are use to remove the sting organs of worker bees for point testing or bee acupuncture. A dressing forceps is used to squeeze the cephalothorax of the worker bee, push

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the abdomen outward and pinch the head with the left hand while holding the hairdressing forceps outward with the right hand; or the abdomen is put inside, the forceps is held inside with the right hand and the sting organ is removed when the needle is taken out. For the sting organ of live bees, the juncture (1/3 superior and 2/3 inferior) of the sting is grasped with the hairdressing forceps. If there is too much leaning up, this action will influence the contraction of the solution sac and the discharge of bee venom; if there is too much leaning down, it is easy to get hurt because of the thin needle, and it is also easy to drop it. The sting organ should be used within a few seconds after leaving the bee's body; if removal is delayed longer, the liquid will eject from the top of the needle in great quantities.

The method of testing points: doctors should first perform normal disinfection of the anterior skin below the antebrahium. The removing needle is used to pierce the 0.5~1.0 mm area of skin that corresponds to the Wai Guan point; then it is pulled out at once and the point will develop a small papillae. It should be examined 20 minutes later; if there is no local reaction, such as violent and reddish swelling, extreme itching, or general response, such as hydroderma, rash, a stuffy feeling in the chest, a suffocating feeling, nausea, vomiting, bellyache, palpitation, fatigue, fever and so on, then doctors can proceed with the bee acupuncture process. Anyone who has an allergic reaction cannot undergo bee acupuncture. Doctors should maintain vigilance for signs of anaphylactic shock, and if present, initiate emergency procedures and curative treatment.

2. Scattered needling along the related meridians The sting pulled out from live bees is used to carry out scattered needling on the affected (and dis-

infected) area or the cutaneous region of meridian related to the relevant diseases. The first 5~7 points should not leave the forceps; in other words, it should be removed at once. After piercing into a certain point, the needle can be released by the forceps and kept in for 2~3 seconds; in this manner a needle can scatter-prick 8~10 points or even more.

The force of scattered needling should be moderate and perpendicular, otherwise the needle could easily be broken. Doctors must perform this along the cutaneous region of the diseased part or where there is pain, needling every 1~2 mm slightly in the zone concerned. Usually, doctors use 3~5 bees to perform scattered needling on an area and clean the area with a frozen towel soaked with bromogeramine, then needling the next point.

Scattered needling is also used to maintain health and prevent caducity (senility). The number of bees can be increased by 1,3,5 or 2,4,6 every time. After stinging, if the localized reddish swelling becomes severely inflamed, and fever and other general responses increase, the number of bees should be reduced and that number maintained for a while. The number of *Apis mellifera* that can be used is about 10 (not more than 25), while that of *Apis cerana indica* can be more. The doctor may choose the proper method or combine them.

Bee acupuncture, performed once every two days for 10~15 treatments constitutes a period; the second period begins 5~7 days after the first. Points should be changed in turn by groups but the part displaying local reactions must not be treated. When treating conditions such as facial paralysis, cerebral embolism, the sequela of cerebral thrombosis, bronchial asthma, migraine, hypertension, and thromboangiitis obliterans, it is better to do scattered needling, 1~2



times a week.

In the monographs such as *Chinese Bee Acupuncture* (People's Health Publishing House, 1993), *Treating Diseases by Bee Acupuncture* (Shanxi Scientific and Technological Publishing House, 1996), *Modern Bee Acupuncture and Bee Venom Therapy* (Apitherapy Health Care Library) (Shanxi Scientific and Technological Publishing House, 2002), Professor Fang Zhu described the theoretical foundation and clinical applications of bee acupuncture systematically, and introduced dialectical diagnosis for more than 100 kinds of common diseases.

In recent years, the clinical practice and scientific experiments with apitherapy have proven that, when treating chronic hepatopathy, hepatocirrhosis and later stages of cancer by bee acupuncture, the dosage should be larger and the stimulation stronger, but there is no limitation on the number of bees and the periods used.

In combining bee acupuncture with Apitherayactivilin to treat diseases, doctors can reduce the number of bees to strengthen the therapeutic effect and get a surprising effect.

Beeswax treatment

The use the melting beeswax as a source of warmth and as a medium to transmit heat to tissues, to moisten areas and press them mechanically in the treatment of diseases is called beeswax treatment. Beeswax treatment is a simple technology and it can be used again and again. The therapy has many beneficial effects on adaptive diseases and it is a kind of physiotherapy that is valuable for applying and spreading heat.

Beeswax provides a larger thermal capacity but a smaller thermal conductivity than water; it is virtually

free of water and heat convection. In addition, beeswax near the skin can coagulate quickly to stop conducting heat toward the skin. Hence, although its temperature is above 60°C it does not cause burns. Because air and water cannot penetrate through beeswax, it is difficult for heat to spread around; although there is a thin layer of beeswax on wax cake, poor conductivity maintains the temperature for a long time. The thicker the beeswax is, the longer it will retain heat.

Beeswax has good plasticity and viscosity, so it can cling to all parts of the body. As the heat spreads and cools, beeswax gradually becomes harder and its volume decreases by 10~20 percent. It also has a slight mechanically pressing effect on tissues. Other than esters, beeswax also contains liberal amounts of acids, alcohols and hydrocarbon compounds and all of them have bioactivity. The course of beeswax treatment involves chemical effects; it contains vitamin A (4,096 international units per 100 g) and it has a beneficial effect on moistening skin and regenerating the skin of wounds. Adding propolis to beeswax (1:9) can strengthen its medical effects.

The melting point of beeswax is higher than that of medical paraffin. Beeswax treatment provides organs with strong and persistent heat and makes local and deep tissues become hotter. When applying beeswax, the local skin temperature can reach 8°C~18°C, gradually descending 5~12 minutes later, but still maintains a high temperature for 30~60 minutes. When applying beeswax to the stomach, the temperature can rise by 0.87°C inside the stomach; applying 60°C beeswax to the scapular region can cause the temperature to rise to 39°C. Therefore, it can easily influence the course of metabolism. At the beginning of beeswax treatment, patients feel

burning, followed by comfortable warmth or heat. After the treatment, their blood vessels dilate and congest, with perspiration and the flow of blood speeding up, the effect of this therapy increases. As a result, the local metabolism becomes active, the permeability of tissues increases, regeneration and repair is activated and the function of the reticuloendothelial system improves. Hence, it can ease the pain and reduce inflammation.

When giving beeswax treatment, the beeswax shrinks in the process of hardening and then presses the skin and hypodermis; the slight pressing on superficial capillary vessels enables heat and warmth to enter deeply into tissues (the temperature will rise by $0.5\sim 2.0^{\circ}\text{C}$ within tissues $0.2\sim 1.0$ cm deep). The beeswax treatment is used on primary inflammation or acute wrenches, preventing the effusion of lymphatic fluid and blood in the tissues, relieving swelling and improving the absorption of extravagates. Because beeswax treatment increases the metabolism of local areas of the skin, nutrition also is improved. Owing to the moistening effect on the skin, it can maintain softness and flexibility, being protected from excessive looseness and forming rugas; the treatment can soften and relax scar tissue and muscle spasms, thus alleviating the pain caused by scars. When using a beeswax bandage to treat wounds and ulcers, to moisten the surface and improve the nutrition of tissues, the treatment can block air and prevent bacteria from invading the area and then reproducing. Because of the contraction of the beeswax bandage, it is useful in stopping new surface bleeding of wounds. Beeswax can promote epidermal growth and callus formation; therefore, this treatment can improve the surfaces of wounds, and heal ulcers and calluses.

When preparing the beeswax treatment, the wax

must be put into two-layer pans and heated until it melts without adding water. An instrument for melting wax and regulating its temperature can be used along with electric heat at $70^{\circ}\text{C}\sim 75^{\circ}\text{C}$. However, the wax pan should not be heated on the stove directly, otherwise, this would influence the plasticity and viscosity of the beeswax, and could even result in fire.

There are more than 10 beeswax treatments; the following two are the most commonly used:

1. Beeswax trays (beeswax cake). The melting beeswax is put on a dish that spreads to a thickness of $2\sim 2.5$ cm. When the surface coagulates (the surface temperature reaches about 55°C), the temperature inside is $4\sim 8^{\circ}\text{C}$ higher. It can be cooled by exposing it to the wind. At this point the beeswax can be separated from the edge of the dish, and applied it to the part to be treated. Then, it should be covered with an adhesive plaster or plastic cloth, packed with cotton mat outside, and kept warm with a bed sheet, quilt or carpet. The treatment time is $30\sim 60$ minutes, once a day or on alternate days; a course constitutes $20\sim 25$ treatments. The size of the cake depends on the part of the body to be treated, for example, if treating the thigh, prothorax and spine, the cake would be 50 cm \times 30 cm; for waist and abdomen, part, 40 cm \times 20 cm and less on a joint. It is simple to apply. The temperature of beeswax is stable and the warmth and heat effect is strong, so it can be used to treat many patients at one time.

2. Brushing beeswax. Melting beeswax is put into a small container, for instance a porcelain bowl, and a flat hair-brush is dipped into the beeswax liquid; some thin beeswax is then daubed onto the surface of the part to be treated quickly and evenly. After cooling, the layers of thin beeswax will coagu-



late into a constrictive and soft wax shell, which is a protective layer with low thermal conductivity. Thereafter, the patients should not move in order not to destroy the layer and be burned by the hot wax outside. Next, the beeswax outside layer should be brushed at once, and built up to a thickness of 1~2 cm. To save time, one can spread a beeswax cake or 6~8 layers of gauze dipped into the hot beeswax. When brushing to a thickness of 0.3~0.5 cm, a cotton mat made from the gauze can be dipped into the beeswax, followed by wringing it out on a mangle and then spread on the protective layer. The outside is covered by plastic cloth or oilcloth and further insulated with a bed sheet, heat-retaining bed quilt or carpet. The treatment time and times of a period are the same as in the first method. This beeswax method can play the role of a mechanical press, and is useful for treating acute wrenching of the limbs. However, a disadvantage of this method is that it wastes time, and beeswax tends to drop from the brush. It easily stains bed sheets, among other inconveniences. To avoid depilation, a layer of gauze can be spread out before brushing.

There are adaptive diseases and contraindications with regard to beeswax treatment. The following are some useful references: *Encyclopedia of Chinese Agriculture, Keeping Bees*, p133~135, Agricultural Publishing House, 1993; *Magazine of Bees* (5): p26~27; (6): p32~33,35; (7): 31~32, in 1990.

Introduced electrohydronium of bee venom

Direct current can cause a series of physical and chemical reactions and physiological influences. Treatment with direct current can expand blood vessels, improve the local circulation, promote nutrition of tissues, strengthen metabolism, and regulate functions

of the nervous system and internal organs in order to prevent diseases.

Directing the ions of bee venom into the human body through the skin using direct current, instead of the sting or injection, is a form of bee acupuncture without pain or injection, although, after the treatment, the skin may suffer hyperemia, a little swelling and slight itching. This method involves comprehensive functions of direct current treatment and medicine. The constituents of bee venom, conducted by direct current, act on the body directly or influence the body through nerve reflection and body fluid. If doctors introduce the constituents of bee venom directly, they need to choose the part to be treated and keep a high concentration on the skin as it forms ion piles; the ion pile is absorbed gradually and enters the blood stream, so the therapy lasts longer than any other medicinal therapy.

L. Ceranke (1937) reported that 800 patients with hypertension benefited from this method. For more than 70 years, the method has spread; it is used in Russia, Canada, China and many European countries. It is used for successively treating bronchial asthma, the sequelae of apoplexy, many kinds of neuralgia, spinal radiculitis of waist root, osteoarthritis, prolapse of lumbar intervertebral discs and so on.

According to physical and chemical experiments with bee venom, two main components, melittin and phospholipase A₂ (PLA₂), are conducted into the body when ions of bee venom are introduced; it should be mentioned that the introduction of double poles is needed. R.B. Brooks and J. Saine, American and Canadian scholars respectively, did an experiment which showed that melittin and apamin were used to conduct gundog ions, which can increase the content of blood plasma cortisol, prolong the introduction time

well and strengthen the effect.

For more than 10 years, IAHBA has been improving the method of ion introduction of bee venom and its appliances. That association has introduced API General Physiotherapy equipment and it is controlled by microcomputer; its waveform not only frequently changes in density, but also has various forms of pulse scale. Patients are thus given bionic massage, such as kneading, pushing and pressing, beating, rolling and dindling. It is natural and comfortable and has a good therapeutic effect. Dissymmetry of medium electric-current conduction reserves the negative pulse of certain energy, weakens the polarized electric field created by human bodies, raises the introduction depth of medicinal ions, avoids incitement against the skin. The hydrating and diathermy electrode produces extreme-infrared radiation, and then promotes and improves the microcirculation of the human body. With the function of alternating current, it produces a dynamic magnetic field and regulates the body's biological field. API General Physiotherapy equipment has a number of functions of heat treatment, magnetic treatment, and introduction of electrotherapy and medicine, so it has comprehensive effects on adaptive diseases susceptible to bee acupuncture.

API General Physiotherapy equipment is applied in clinics and at home; the apitherapy conduction paper, recommended by IABPS, goes together with the equipment.

Concrete methods of introducing bee venom by electric ions is described in the reference work entitled *Modern Bee Acupuncture and Bee Venom Treatment* (Series of Apitherapy Health Care) (Shanxi Scientific and Technological Publishing House, 2002).

Ultrasonotherapy with bee products

When ultrasonic therapy is used to treat diseases, direct action may cause the following: the temperature of tissues in the part concerned increases, capillary vessels expand, the blood circulation strengthens, metabolism thrives, the functional hints of the enzyme system influence cell membranes, cells and substances inside of the cell nuclei. This therapy can reduce inflammation and swelling, regulate or improve the physiological state of organs and cells and even speed up the process of healing. The right amount of ultrasound can influence movements of all systems of the body and promote recovery from disease.

It has been proved that people use ultrasound to introduce bee venom, propolis and pollen into the human body through the skin and mucous membranes; also it is used to atomize the liquor of propolis, honey and bee venom into extremely small droplets to effect absorption in patients. Thus, medicines can play a direct treatment role in the conspiratory system. (Details of the method are omitted).

API High-frequency Ultrasonotherapy equipment adopts new, high-level transducing technology, without acupuncture and medicine. The apitherapy couplant can be introduced locally by ultrasound and has a good therapeutical effect and maintains a high concentration. Conducting the apitherapy couplant through the body's surface by ultrasound can treat many diseases: Apitherapy couplant No. 1 resists inflammation, alleviates pain and gets rid of rheumatism; the No. 2 couplant activates blood circulation to dissipate blood stasis, and soften and resolve hard mass. When treating women's lobular hyperplasia of galactophore, chronic annexitis, oviduct adhesion and oophoritic cyst and so on, doctors should conduct the



No. 2 couplant by ultrasonic means through the abdomen, as the effect is much better. The sonic applicator of celom conducts the apitherapy couplant through the rectum and acts on the prostate locally and treats chronic prostatitis and chronic prostate

hyperplasia to overcome obstacles posed by the medicine-blood-prostate barrier. This is performed once a day, 20 minutes a time, 10 times per course. The beneficial effects soon becomes obvious.