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BVT and Pregnancy

by ***Michael Simics***

There are always heated discussions about contraindications of BVT. I have gathered some information on the topic of BVT and pregnancy and present it here for further reference. Almost all books on apitherapy state that bee venom therapy is contraindicated during pregnancy. Unfortunately, most of these books do not give explanations.

Bee venom is very powerful, even in small quantities, and its effect should not be underestimated. In particular instances, even a very small amount can be too much. It is especially powerful when it is extracted from live bees during the summer season, when plentiful pollen sources enable the bees to produce high potency venom.

Therapeutic honeybee venom comes in three basic preparations:
Apis mellifica (Apis): whole body extract
Apis virus: venom sac extract
Apis venenum purum: whole bee venom (dried venom)

The most detailed observations on the effect of bee venom (Apis mellifica) come from homeopathic practitioners. (See Editors note) In 1835 in Germany, Rev. Brauns first introduced Apis as a therapy when he treated domestic animals with bee venom using a highly diluted homeopathic formula. The homeopathic proof of Apis was not published until 1853 when an American, Dr. Constantine Hering, included it in his American Proving, Vol. 10. A homeopathic proving involves a group of healthy people ingesting a substance and recording their reactions to it. According to homeopathic principles, the dilute homeopathic form counteracts those symptoms. Shortly after Dr. Hering published the proving, homeopathic physicians began to use bee venom and record their observations.

Dr. C. W. Wolf of Berlin, Germany wrote the first book fully dedicated to the use of bee venom as a therapy, Apis Mellifica; or, The Poison of the Honey-Bee, Considered as a Therapeutic Agent. In this short (80 pages) but very detailed book Dr. Wolf describes how to prepare and use Apis and documents his clinical observations. He describes the preparation as follows: *"As soon as Dr. Hering had published the proving of the bee poison in his American Provings, I at once submitted them to the test of experience in an extensive practice. I prepared the drug which I used for this purpose, by pouring half an ounce of alcohol on five living bees and shaking them during the space of eight days, three times a-day, with one hundred vigorous strokes of the arm. From this preparation, which I used as the mother-tincture, I obtained attenuation's up to the thirties centesimal scale. So far, the effects, which I have obtained with this preparation, have been uniformly satisfactory. It has seemed to me that the lower potencies lose in power as they are kept for a longer period; hence, I consider it safer to prepare them fresh every year. As a general rule, I have found either the third or the thirtieth potency, sufficient."*

Bees produce approximately 0.1 mg dried venom per venom sac. The latest research has measured 0.15 mg venom per venom sac. Based on Dr. Wolf's preparation method, the amount of bee venom in the Mother Tincture (MT) can be calculated as follows: 1/2 ounce = 15 ml (three teaspoons) 5 bees (venom sac contents only)= 0.5 mg (5 x 100 micrograms or 5 x 0.1 mg) [0.1 mg is the industry's accepted standard]

So, there is 0.5 mg of bee venom in 15 ml alcohol. Dr. Wolf attenuated (diluted) his MT on the centesimal scale (CH - 1:100) from 3 to 30 times. This means the amount of bee venom was reduced as follows: 3CH=100 x 100 x 100 = 1,000,000 1/1,000,000th of its original amount.
Or
30 CH=100 x 100 x 100 x 100 x 100 x 100 x 100 x 100 x 100 x 100 x 100
x 100 x 100 x 100 x 100 x 100 x 100 x 100 x 100 x 100 x 100 x 100 x 100

x 100 x 100 x 100 x 100 x 100 x 100 x 100

Centesimal Potency Dilution Concentration
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30 CH or 30 C 1:10(60) 10(-60)
1/1,000,000,000,000,000,000,000,000,000,000,000,000,000,000,000,000,
000,000,000,000 of its original amount.

For the sake of simplicity, I have calculated the MT the 3CH potency.

The MT was diluted 100 x 100 x 100 - one million times, so the original amount of 0.5 mg (500 microgram) bee venom was reduced in the tincture to 500:1,000,000 = 0.0005 microgram per 15 ml tincture. This gives 0.000033 microgram venom in 1.0 ml (cc) tincture.

This amount of bee venom is 1/303,030.3th of a bee sting. When you apply venom from live bees for therapy, you CANNOT control the amount of venom you give and it is unlikely you will be able to give as small an amount as that administered with the 3CH tincture.

Based on this small amount of bee venom, which can become smaller when it is diluted to higher potency, Dr. Wolf wrote the following observations: " *I have had abundant opportunities of verifying the warning .... 'pregnant women should use the drug very cautiously.' I am not acquainted with any drug which seems possessed of such reliable virtues regarding the prevention of miscarriage, more particularly during the first half of pregnancy, as Apis. I have often become an involuntary spectator of the power of Apis to effect miscarriage; for I had given it to honest women who did not know that they were pregnant, and where the fact of pregnancy was revealed to them by the subsequent miscarriage, which took place after one or two doses of Apis had been taken. Ever since I have made it a rule not to give Apis to females in whom the existence of pregnancy can be suspected in the remotest degree, until the matter is reduced to a certainty, and the conduct of the physician can be determined upon in accordance with existing facts. I am unable to say how far this power inherent in Apis, of producing miscarriage, may be serviceable to females who are prone to miscarriage. I beg the privilege of adding a more general warning to this particular one. The more generally useful a thing is, the more liable is it to abuse. The most important and useful discoveries of homeopathy are abused in this manner by our age given to all sorts of excesses."*

Twenty-one years later Dr. Hering added to the list of symptoms of Apis-bee venom on female sexual organs and pregnancy. In Condensed Materia Medica - Apis Mellifica (1877), Dr. Hering describes the effects of Apis on Female Sexual Organs and Pregnancy as follows:

Female Sexual Organs:

Sharp, cutting, lancinating pains in ovarian region, extending down thigh; worse right side; numbness in side and limb.
Ovaritis.
Ovarian tumor.
Feeling of weight, heaviness in ovarian region.
Right ovary enlarged, pain in left pectoral region, cough.
Dropsy of the ovaries (right), or of the uterus.
Great tenderness over the uterine region, with bearing down pain; leucorrhoea and painful urination.
Heat and fullness of uterine region.
Burning or stinging pains in region of uterus or ovaries.
Menorrhagia, with heaviness in the abdomen, faintness, uneasiness,
restlessness, yawning; may have red spots on body, stinging like bee-stings.
Suppressed menses, with congested or inflamed ovaries.
Amenorrhoea.
Disenorrhoea, with scanty discharge of slimy blood.
Oedema of the labia.

Ovarian tumors.
Leucorrhoea: profuse, acrid, green.

This summary of the research literature points out that flavonoids are not the only important active substances in propolis. In fact, it is clear that many other compounds must be considered in assessing the quality of propolis. Present knowledge and understanding about propolis' active principles provides the basis for another important conclusion: it is impossible to apply one standard analytical procedure to all propolis samples to measure the quantity of active substances. This is because, due to the chemical diversity of propolis, the active substances in different samples can have completely different chemical natures even though they have the same type of biological action!

Is there a way out of this puzzling situation? Perhaps, if we try to think like bees and to consider the sources the bee uses for propolis. The plant origins of propolis could give clues to standardizing its quality control. Propolis could be catagorized easily by plant source, which can be established by simple chromatographic comparison of both materials, using thin layer, high performance liquid, or gas chromatography. This approach can give information about the qualitative composition of the propolis sample in so far as the composition of the corresponding plant material is known. It is generally accepted and has been chemically proven that in temperate zones the bud exudates of Populus species and their hybrids are the main source of propolis. This is true for Europe, North America, and the non-tropical regions of Asia (Bankova et al., 2000). It has been discovered that in New Zealand the source plants are introduced species of Poplar.

When discussing "poplar type" propolis, it is clear that the product is a mixture of flavonoid aglycones, hydroxycinnamic acids, and their esters, and that these are the compounds that must be quantified. In Russia, however, and especially in its northern parts, birch buds (Betula verrucosa) are the common source of propolis, and flavonoid aglycones are of interest for quality control (Popravko, 1978). Chemical provings in some Brazilian regions have shown that Baccharis species leaf exudate is the main propolis source (Bankova et al., 1999). In this case, the important active constituents are carbon-prenylated derivatives of p-coumaric acid, and their percentage should be measured. Knowledge on active components and plant sources of propolis could lead to the formulation of a range of propolis types based on botanical origin, for example, "European," "North Russian," and varieties of "Brazilian."

Based on these considerations, it can be said that a propolis sample of good quality must have the following characteristics:

1. Be free of toxic contaminants
2. Contain acceptably low percentages of wax, insoluble matter, and ash
3. Be of a defined plant source determining the type of active compounds in it
4. Contain a high percentage of these active compounds

Unfortunately, such a system of quality control still does not exist, partly because of incomplete information about plant sources for propolis in tropical countries, and partly because there is insufficient qualitative data on flavonoid content and phenolic acid esters content in European and North American propolis. This data is needed to define a range of these substances to guarantee the desired biological effect; the formulation of a standard is based on a large number of measurements. The elaboration of a particular criterion for quality control of propolis remains a challenge to propolis researchers all over the world, but it is a challenge that is being met.