# UTILIZATION OF PROPOLIS IN HUMAN MEDICINE *)

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In 1971, the first Symposium on propolis was held in Bratislava, and in 1976 — the second. This bee product is focusing the interest and research activity of a great number of relevant institutes.

At both Symposia it resulted that the use of propolis in various domains, the human medicine included, is scientifically supported. That is why, in this paper we discuss results obtained in using propolis in human medicine, and describie methods of application.

The folowing biological and pharmacological effects of propolis are made use of in human medicine :

a. the batericidal effect (destruction of bacteria)

b. the bacteriostatic effect (inhibition of the bacterial growth)

c. the effect of local anaesthesia (analgesic effect which suppresses sensitiveness and eliminates pain)

d. the antitoxic effect (inactivation of the toxic substances in the human body)

e. the antiviral effect (inhibition of the virus growth and multiplication)

d. the fungicidal effect (destruction of fungi)

g. the anti-phlogistic effect (anti-inflammatory effect)

h. the fungistatic effect (inhibition of the fungal growth)

i. the dermatoplastic effect (favouring healing of wounds).

This wide range of biological and pharmacological effects of propolis is the result of its complex composition. Propolis constituents include aromatic aldehydes, essential acids, alcohols, flavones, and flavonoids, and some of the substances present in beeswax and pollen.

The following propolis preparations have been used in human medicine (both in clinical treatment and tests) :

a. propolis solutions (extracts) : water or ethyl alcohol extracts of different concentrations ;

b. ointments with propolis, whose major constituent is the white or yellow vaselin, lanoline, animal fat or plant oils (sunflower, olive, etc.) ;

c. creams with propolis, prepared with triturated propolis with vaselin oil or other non-irritant oil ;

d. propolis emulsions, usually prepared by precipitation of propolis dissolved into ethyl alcohol, with water or milk ;

e. plasters with propolis, used mostly in dermatology ;

f. propolis inhalants ;

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g. biological dressings ;

h. chewing gum and drops mostly used in stomatology.

In human medicine, propolis is used in surgery, dermatology, otorhinolaryngology, pediatrics, and stomatology.

We shall now review some of the positive results obtained following use of propolis in medicine.

In surgery, propolis has been successfully used in healing obstinate wounds. Ointments including 10—30% propolis speed up remaking of granule cells in wounds, ease pains even when wounds are heavily festering or when necrotized at the edges; further on, the ointment favours epithelial growth. Treatment with such ointments generally takes less time than with traditional ointments, sometimes a twice shorter period of time. The ointment with propolis is also efficient in wounds infected with bacteria resistant to the drugs used up to now.

Positive clinical results have also been recorded in the treatment of decubitus ulcers and of trophic sores of the shank, in which no treatment had been successful previously.

Propolis has been largely used in dermatology of late. The good experimental results obtained testified to the efficiency of propolis in treating chronic circumscribed neurodermatitis (constant circumscribed, pruriginous skin inflammation), chronic diffuse neurodermatitis (constant diffuse and pruriginous inflammations of skin), acute, chronic, and microbial eczemas, and dermatomycosis (skin mycosis).

Before starting treatment of such skin affections, the patient's sensitivity to propolis must be tested, and whether allergenic reaction occurs, propolis shall not be used.

A new application of propolis has been successfully used of late — inhalation. Propolis inhalation was found to be efficient in curing affections of the breathing apparatus, being used in otorhinolaryngology : in inflammation of the bronchia, acute inflammation of the mucous membrane of the throat and larynx, chronic inflammation of the mucous membrane of the nose, throat, and larynx, chronic inflammation of the bronchia, and in chronic atrophic inflammation of the mucous membrane of the throat.

Good results have also been obtained in festering inflammation of the middle ear : pads imbued with propolis alcoholic extract were used. Propolis stops the suppurative process and eliminates inflammation.

In pediatrics, propolis was found to be efficient in mycotic infection of feet, especially in the inner and medium zones of the foot and between toes.

In stomatology, 2—4% propolis alcoholic extract is commonly used. According to many authors, it is efficient in the treatment of soft tissues in the buccal cavity, of aphtha, mycotic infections and sores, and of abscesses of the gum.

Recently, propolis has been successfully applied in curing high sensitiveness of the tooth neck — parodontosis (more precisely for non-determined pathological changes around the tooth), for treatment of gums in parodontopathies, of ulcerous gingivitis (ulcers of gums), and in aphtha

(inflammation of the buccal mucous membrane, manifest as tiny vesicles). It was established that propolis has a better effect in aphtha than the potassium nitrate or zinc chloride, and that it can even replace the iodine liniment.

In stomatological therapy propolis is used for local anaesthesia — in high sensitiveness of both the tooth and the tooth neck during treatment of dental decays ; in deformations and abrasions of sphenoidal bones (during removal of tartar).

In stomatological surgery propolis is used for anaesthesia for extraction of loose teeth, of tooth roots, of milk teeth with anaxial roots, as well as to alleviate pain after extraction. Propolis was found to be efficient in stopping post-extraction haemorrhages.

It results that the use of propolis in human medicine is scientifically supported, both alone and together with other drugs. Studies are now being conducted in many countries, on possible use of propolis in other domains too.