CALVAKEHL and USTILAKEHL

Two SANUM Preparations for use in Treatment of Hæmorrhage and Hæmorrhagic Tendency

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Introduction

Like the multi-faceted palette of isopathic remedies, the preparations CALVAKEHL and USTILAKEHL are obtained from fungi, although in this case we are not talking about mould preparations. To produce CALVAKEHL, spores of the Giant Bovista (Puffball) are obtained by solvent extraction, and in the case of USTILAKEHL the entire Corn Smut fungus is macerated and then potentised homœopathically.

In order to tease out the diverse effectiveness of these two remedies, initially we shall begin by portraying them individually.

I. Giant Puffball, Calvatia gigantea (old designation)

CALVAKEHL is obtained from the spores of the Giant Puffball (Langnemannia gigantea). The Giant Bovista or Giant Puffball is assigned to the genus of Giant Bovistæ (Langnemannia) and is a member of the order of Agarics (Agaricales) and the sub-order of Agaricomycetidæ (cap mushrooms), although it forms neither lamellæ nor a cap. In the vernacular it is also known as “Boy’s fist” or “Wolf’s fart”.

This fungus grows in meadows, pasture land and in sparse woodlands in Central Europe and North America; its fruiting body appears from the ground between June and September. It likes soil that is rich in humus and nitrogen, which is why it is often found growing close to stinging nettles. Its preferred subsoil is rich in potassium, phosphorus, magnesium, copper and zinc. Despite intensive efforts, so far all attempts to cultivate it have failed. Thus we are dependent on the wild form. Langnemannia gigantea requires c. 9-11 days in summer and c. 15 days in autumn to develop its enormous fruit (See Fig. 1).

This so-called “stinkweed” usually has a spherical appearance. It is strikingly big, measuring 10-50 cm in diameter when fully developed, attaining a weight of up to 20 kg. When young it has a smooth, white skin, feeling a little like leather to the touch and consisting of two layers, one on top of the other. As it matures, its colour changes to greyish-brown or dark brown. First the outer protective layer decomposes, then later the inner one. Inside this large sphere up to 7 billion spores ripen, making the Giant Puffball one of the most fertile fungi of all, if not the most fertile. The white fruity mass within the skin of the capsule takes on an olive-green colour as it continues to ripen. By now the skin is thin and almost like paper; if it is damaged, the Puffball releases its spores into the surrounding area, covering the nearby plants with a thin layer of dark brown spores, which the winds carry in all directions. With smaller Giant Puffballs, especially before they reach full growth, it is possible to mistake them for the Mosaic Puffball or the Pestle Puffball. All three of these puffballs are edible when still young, with the Giant Puffball being sliced and then prepared rather like a schnitzel. Enhanced with appropriate seasonings, it provides a very tasty, protein-rich meal. It is also referred to as the “Civil Servant’s schnitzel” [Beamtenschnitzel], because it is good value for money and very filling.

Significance of the Giant Puffball in the Healing Arts

As well as its culinary use, in earlier times the Giant Puffball, when fully ripe, was used by beekeepers working at the hives, hanging it on the fence nearby to calm the bees, rather than using smoke. In Folk Medicine in bygone times, the powdered spores, known as “Fungus bovista” or “Bovista chirurgorum”, were used on wounds that were slow to heal, or to stop the flow of blood after major operations, such as amputations. According to reports,
wounds treated in this way would heal with astonishing rapidity.

Intensive investigations have been carried out into the constituent substances of the Giant Puffball, as its colossal biomass is of particular interest both as a source of food and for the production of appropriate medicines. When fresh it contains 13-14 % dry mass, half of which consists of raw protein! A further 10 % of the dry mass is fats, and more than 8 % is minerals! According to Prof. Lelley, 100 g of fresh Bovista contains 180 mg Phosphorus, which is twice as much as the potato, five times as much as in brassicas, and half of what legumes contain. According to this source, in 100 g of fresh Bovista there are 6 mg Calcium, 300 mg Potassium, 17 mg Magnesium and less than 2 mg Sodium. According to other authors, the Giant Puffball contains high levels of Zinc and Selenium. In the dry mass, up to 0.5 mg/g of Zinc have been measured; the amount of Selenium varies locally: in Poland 2.9 ppm, and in France and Switzerland 1.16 ppm. The contents mentioned make the Giant Puffball a very healthy “food supplement“.

As well as this, analyses of constituent substances have shown up Ergosterol and Calvatin, a glyco-proteid, to which a cancerostatic action is attributed. In animal experiments an astonishing inhibition of the malignant tumour Sarcoma 180 has been observed.

In both European and Chinese medicine there has been a long tradition of the use of Giant Puffball spores. They have been - and still are - successfully used to staunch bleeding, particularly nosebleeds! But these spores are also the remedy of choice in prolonged menopausal bleeding and protracted monthly periods. This is set out in a new Chinese study of the particular efficacy with regard to post-surgical hemorrhages, with bleeding being stemmed in 98 % of cases after administration of Bovista spores. The Chinese like to apply the spores externally in cases of swellings, purulent ulcers and chilblains. Moreover Chinese Medicine is familiar with preparing a tea with, e.g., 1.5 - 6 g dried, pulverised flesh of the fruit with 100 ml of hot water. The use of this tea is preferred in respiratory diseases, especially tonsillitis and bronchitis.

However, the Giant Puffball, and its spores, are used not only in mycotherapy, but also in the form of homœopathic preparations. In this case the practitioners orientate their treatment both around the traditional use and around the homœopathic remedy picture.

**Homeœopathic Remedy Picture of Bovista**

a. **Weakness of the heart and circulation with hypoxæmia and capillary congestion:**

The commonest symptoms are constriction with a simultaneous sensation that the heart is too big. As a result of the capillary congestion, there is a sensation of enlargement of the affected body parts. Everything is worse in the mornings and in hot weather, and constricting clothing, coffee and wine also cause aggravation. Losses of consciousness and palpitations may occur, and these are better after mealtimes and during menstruation. The hypoxæmia frequently results in headaches, which are ameliorated by lying down, at night, in the morning, in open air and from pressure, but are aggravated by stooping. Difficult comprehension and concentration may likewise occur.

b. **Hæmorrhagic tendency, menstrual disorders with black, clotted blood**

Aggravations occur at night, and sometimes in the mornings on rising, with a tendency to chronicity, caused by venous stasis and congestion of blood. Complaints are mostly localised in the uterus, presenting as menorrhagia (prolonged, copious menstruation) and metrorrhagia (bleeding additional to normal menstruation); also periods that are too early or with flooding, often associated with intolerances or pressure from the waistband; diarrhea before or during menstruation and leucorrhæa before and after menstruation. There may also be a flow of blackish blood at ovulation and at the least exertion. Nose-bleeds which reduce on blowing the nose, and bleeding of the gums (especially after dental extraction) are prominent symptoms.

c. **Sensation of enlargement of various parts of the body, with the affected person dropping everything because of this sensation of enlargement and being regarded as clumsy.**

d. **Catarrhal irritations of the digestive tract mucosa (with diarrhoea):** the pre-condition for this is venous stasis in the area of the hepatic and portal veins. This is often accompanied by flatulence, sensation of abdominal enlargement and attacks of colic which are aggravated by bending double, frequent diarrhea, especially in the mornings, followed by tenesmus and burning at the anus. Aggravations occur in hot weather and after cold meals, whereas eating ameliorates.
After attacks of diarrhoea the urine may have a red colour.

e. Skin irritation in the form of herpetic or eczematous eruptions: Invariably this is accompanied by severe itching, which is intensified by warmth and nervous excitement, but is not relieved by scratching, so that those affected may scratch until they draw blood. Because of the excitement severe urticaria may occur with rheumatic complaints or paralytic conditions, accompanied by violent palpitations and diarrhoea. The whole of the affected person’s body may be covered with pustules, thick crusts or moist eczema. Eruptions like herpes and symptoms of scurvy are characteristic.

f. Extremities: these exhibit great weakness and tiredness, with unbearable itching at the end of the coccyx.

g. Odour of perspiration: strongly reminiscent of onions.

h. Psychasthenia.

Bœricke and Lelley particularly draw attention to the antidotal use of Bovista after working with tar and in the event of danger of suffocation by gas; Bœricke also recommends it as a follow-on remedy after the use of Rhus in chronic urticaria.

To sum up, we can emphasize the efficacy of the homœopathic preparation of “Bovista” in the areas of capillary congestions, bleeding, hypoxæmia, and irritation of the skin and mucosa. It is particularly the problem of congestion that causes the various symptoms on different surfaces of the body and organs that find their Simile in “Bovista“ - CALVAKEHL.

II. Corn-smut, Ustilago zeae (maydis)

USTILAKEHL is a homœopathic preparation from Ustilago zeae (Ustilago maydis), commonly known as corn-smut.

The corn-smut fungus, Ustilago zeae, is very specialised with regard to its host plant: it only attacks maize and its (assumed) original form (see Fig. 2).

It presents no danger of infection to other types of cereal. It flourishes particularly in young maize plants, because they contain plenty of growth material and B-vitamins. A good water supply also encourages it. Infestation by the fungus results in visible deformities and swellings, particularly around the cobs, although the whole plant is affected. These so-called smut lesions may reach the size of a child’s head. When these tumour-like galls open up, the bluish-black spores spread over the plant, which then has a burnt appearance. It was this that led to the name “Ustilago” being applied; this is derived from the Latin stem “ustilare”, meaning “to be burned up”. As a result of modern agricultural methods a serious spread of the fungus can be created by the permanent growing of maize plants on the same stretches of land (monoculture), leading to severe economic loss. 80 % of the harvest can be destroyed. This can be combated by intervening cultivation of e.g. rye.

Like the Giant Puffball, the Corn-smut fungus, which is one of the Ustilagomycetes, is edible in its immature form. In Mexico, the home of maize, and particularly in Eastern Mexico, the infected cobs are harvested before the fungus begins to form spores, and are roasted with other ingredients - especially garlic - or processed into soups or sauces. Here infection with corn-smut does not signify any economic loss, in fact

Fig.2: Corn-smut fungus on ripe corn-cobs.
the fungus is regarded as an enhancement of the menu and is called Huitlacoche or Cuitlacoche. At the gall stage the galls are harvested a few weeks after infection, when they are still unripe and moist on the inside. During cooking the fungi give off a sweetish, mushroom-like aroma, which comes from the ingredients soloton, vanillin and glucose. In Switzerland too, Ustilago maydis is permitted to be sold as an edible mushroom. In Germany and Austria this fungus is banned from wholesale trade. However, in classy European and North American restaurants it is on offer as “Mexican Truffle”.

Ustilago maydis has a very complicated cycle of generations, with varying stages for spores and mycelia. Thus it is an outstanding example of the pleomorphism of a fungus.

**Action of Ustilago maydis on Humans and Animals**

The mature spores of the corn-smut fungus can cause allergies. As aeroallergens, and because of their very small diameter, they can penetrate as far as the apices of the lungs, resulting in irritations and allergic reactions, on account of the protein and carbohydrate compounds in their thick cell walls. Appropriate tests carried out in cities established the presence of a seasonal apical stress in the months of May to July. Examination of patients suffering from asthmatic and rhinitic complaints revealed amazingly high percentages, and after intradermal testing these showed an immediate or delayed reaction to corn-smut spores.

Poisonings caused by the spores from the galls are referred to as ustilaginismus. This finds expression as diarrhoea or excitation of the womb; in children acrodynia, cyanosis of the extremities and cramps may occur. In general corn-smut spore poisoning may lead to dry gangrene, pareses, or a reversal of adrenalin hyperglycaemia resulting in lowered blood pressure. This is partly attributed to a cholinester which is very similar to acetylcholine. There are also said to have been neurotoxic effects and organ changes in rats. In pregnant animals (cows, dogs, guinea pigs) spontaneous abortions have been noted. From this it is assumed that the alkaloids contained in the fungus, which bear great similarity to ergotamine from ergot of rye, are responsible. Among the black population of North America, extracts from the spores were used to cause abortion.

Therefore you are advised not to consume corn-smut spores from polluted maize.

According to recent investigations in Bavaria, poisonings from maize showing signs of corn-smut may be attributable to a secondary infection of parts of the infected plant with moulds and their toxins. Maize plants that are affected by Ustilago naturally have reduced immunity to other infective agents. In agriculture it is recommended not to feed cows that are pregnant or providing fresh milk with maize that shows signs of Ustilago maydis infection.

In gene research and gene technology corn-smut plays an important role, because research is taking place into genetic recombinations and DNA repair mechanisms within its genome. Here comparisons can be made with genetic material of other, completely different organisms, such as Arabidopsis (mouse-ear cress) and nematodes, and analogies can be drawn. Ustilago maydis also secretes certain inhibitors which prevent other similar infective agents from growing. Therefore the genetic bases of these inhibitors are being trialled on other kinds of cereal for purposes of building up their resistance.

**The Homeopathic Remedy Picture of Ustilago**

**a. Passive congestion of the relaxed uterus and ovaries with hemorrhagic tendency:**

The uterus may press downwards. During menstruation black blood is passed with small, black clots, trickling or flowing slowly, the pain being absent or only slight. The blood, and also the leucorrhoea before and after the period, are foul-smelling. Generally there is an increased hemorrhagic tendency, but particularly in the region of the portio bleeding will occur even after only slight touch. A particularly large amount of blood is lost following childbirth or miscarriage, and in some cases this contains long, black threads, whereas it may also be bright red and sometimes clotted in menorrhagia during menopause. The lochia is increased.

**b. Surges of blood in various parts of the body:** particularly during the menopause, with a sensation of hot water running down the back. A warm room is not tolerated at all, often resulting in a feeling of constriction and a tendency to faint. Vertigo occurs at the same time, with congestion of blood to the brain and painfulness behind the eyes and lacrimation. There is noticeable pain below the left breast and in the left ovary.
## Comparison of Bovista and Ustilago

<table>
<thead>
<tr>
<th>Organ/Symptoms</th>
<th>Bovista (CALVAKEHL)</th>
<th>Ustilago (USTILAKEHL)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Heart/Circulation</td>
<td>cardiac weakness, stasis, congestion, hypoxemia, tendency to faint.</td>
<td>passive congestion, surge of blood, tendency to faint, vertigo</td>
</tr>
<tr>
<td>Headaches</td>
<td>better for lying down, in open air, from pressure</td>
<td>especially behind the eyes, lachrymation</td>
</tr>
<tr>
<td>Womb</td>
<td></td>
<td>relaxed, passive congestion</td>
</tr>
<tr>
<td>Uterine bleeding</td>
<td>premature and copious flow, with tendency to chronicity, worse at night</td>
<td>esp. strong hæmorrhagic tendency of the portio, trickling or flowing slowly</td>
</tr>
<tr>
<td>Blood consistency</td>
<td>black, clotted</td>
<td>dark, forming threads, small clots, sometimes bright red</td>
</tr>
<tr>
<td>Hæmorrhages</td>
<td>nosebleeds, bleeding gums</td>
<td></td>
</tr>
<tr>
<td>Male genitalia</td>
<td></td>
<td>weakness, excitability, tendency to masturbation</td>
</tr>
<tr>
<td>Gastro-intestinal</td>
<td>catarrhal irritation, diarrhea followed by tenesmus and burning of the anus</td>
<td></td>
</tr>
<tr>
<td>Immune system</td>
<td></td>
<td>powerful immune stimulant, anti-allergic</td>
</tr>
<tr>
<td>Skin</td>
<td>skin irritation with severe pruritus!! Worse for warmth and nervous excitement.</td>
<td>trophic disorders, with falling hair, nails, alopecia, dry skin, eczema, psoriasis (internally and externally), sunburn and coppery patches.</td>
</tr>
<tr>
<td></td>
<td>Scratching gives no relief! Pustules, thick crusts, moist eczema, herpetic eruptions.</td>
<td></td>
</tr>
<tr>
<td>Extremities</td>
<td>rheumatic complaints</td>
<td>rheumatic complaints with clonic, tetanic muscle cramps, esp. lower extremities</td>
</tr>
<tr>
<td></td>
<td>great weakness, tiredness, severe pruritus at end of coccyx</td>
<td></td>
</tr>
<tr>
<td>Pain</td>
<td></td>
<td>female: left ovary, below left breast. male: dull pain in loins</td>
</tr>
<tr>
<td>Fever</td>
<td>sweat smelling of onions</td>
<td>heavy sweating</td>
</tr>
</tbody>
</table>
c. Weakness of the male genitalia with sexual excitement, resulting in unbridled masturbation, spermatorrhoea and erotic phantasising. Dull pain in the loins, with great prostration and excitability are characteristic.

d. Neuralgia of the testicles and extremities.

e. Rheumatic muscular pain: clonic and tetanic muscle contractions are marked, especially in the lower limbs.

f. Trophic disorders occur, with falling of hair, teeth or nails, outer layer of hooves. Numerous cases of alopecia, dry skin, eczema, copper-coloured patches on skin, pruritus, sunburn and psoriasis (internal and external) are found.

g. Fever: this is accompanied by copious sweating, with the pulse initially accelerated and later weakened, linked with palpitations.

Following the remedy trials of the USTILAKEHL preparation, there turned out to have been a strongly stimulant action, affecting particularly the connective tissue and the body’s own defence mechanism. From that is derived USTILAKEHL’s outstanding action in all auto-immune diseases, particularly lupus, Crohn’s disease and allergic diseases such as allergic rhinitis, allergic conjunctivitis and pruritus. For the reasons given, then, it is likewise well suited to the treatment of viral illnesses.

Availability of CALVAKEHL and USTILAKEHL

CALVAKEHL may be obtained from SANUM in the following dispensing forms: CALVAKEHL 3X drops in 10 ml and 30 ml bottles, (prepared according to regulation 4a of the Homœopathic Pharmacopœia, and therefore containing 70% alcohol) or CALVAKEHL 4X tablets (according to regulation 4a and 7 of the Homeopathic Pharmacopœia and therefore with lactose), as a pack of 80 tablets or a bundle of 3 x 80 tablets.

USTILAKEHL is available in the 5X potency, on the one hand as drops in a 10 ml bottle (produced according to 5a of the Homœopathic Pharmacopœia, in an aqueous base), and on the other hand as suppositories (produced according to regulation 6 of the Homeopathic Pharmacopœia with lactose) in packs each containing 10 suppositories.

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First published in the German language in the SANUM-Post magazine (91/2010)

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