

THE EXTERNAL PHYTOTHERAPEUTIC TREATMENT OF EXCESS WEIGHT AND OBESITY

Carlotta Piva

During the phytotherapeutic treatment of excess weight and obesity, it is opportune to associate external treatment with internal treatment as care for the body also takes this direction. Excess weight in women is often accompanied by problems of cellulite, as these are phenomena which can have a significant common cause and therefore evolve in parallel. The etiology of cellulite involves problems of circulation, lymphatic and venous troubles of the legs, but also endocrinous imbalances, bad dietary habits, a sedentary lifestyle, digestive troubles and defective oste-articular attitudes (3).

In addition, a diet that accompanies and supplements effective therapeutic measures in cellulite cannot but have special disintoxicating effects. The disorder of the physiology of the subcutaneous connective tissue, linked with a micro-circulatory deficit and alterations in the capillary permeability, has unquestionably a conspicuous motive in "heavy" dietary habits, which weigh on the depurative hepatic functions. Eliminating alcoholic beverages, fried foods, animal fat, food rich in additives and industrially made desserts and sweets will be a first step in the right direction. Not to be overlooked is the "intoxicating" effect of habits such as the excessive consumption of tea and coffee, as well as cigarettes.

The characteristics of a slimming diet should be the following:

- an adequate presence of fibre, useful to overcome constipation which, together with pelvic congestion, is often found in the history of those who suffer from cellulite and obesity;
- a regular consumption of foodstuffs (brewer's yeast, yogurt, ...) rich in enzymes and bacterial flora with beneficial effects on the symbiotic intestinal bacteria;
- balanced introduction of substances with an anti-oxidant activity against the formation of free radicals in the context of the sclerotic adipose tissue. In particular: Vitamin A (found in cabbage, lettuce, tomatoes, spinach, pollen, apricots, pumpkin...) Vitamin C (found in peppers, parsley, citrus fruit, strawberries, tomatoes, fresh vegetables), Vitamin E (found in extra-virgin olive oil, wheat germ, green salad, pollen...), selenium (in cereals, pulses, eggs);
- an increase in the supply of potassium (found in fruit and vegetables) which, due to its hydrophilic properties, encourages the loss of excess fluid from the tissues;
- an adequate supply of iron (essential to transport oxygen to the cells) contained in egg yolk, in brewer's yeast, in pulses, in green vegetables (2);
- regular and constant physical activity;
- internal and external phytotherapeutic treatment, developed according to the needs and problems of the subject. An improvement in both the arterial and venous circulation

can only be of benefit for a condition of excess weight with the presence of cellulite and can be boosted through the practice of the Finnish sauna or Turkish bath. Although with slight differences, these "sudatory" techniques consist of alternating, on contact with the skin, very hot steam and cold water. The effect obtained (initial vasodilatation followed by vasoconstriction again followed by vasodilatation...) will promote a considerable increase in the cutaneous circulation, as well as profuse sweating. It is intuitive how all this is of use to fight cellulite. Venous stasis and the consequent difficulty of the lymphatic circuit to reabsorb the interstitial fluid are certainly two of the main factors that are responsible for cellulite (2).

Manual lymphodrainage according to Vodder, a Danish biologist who developed the technique in 1932, is certainly one of the best answers to this problem. Lymphatic drainage is a technique of corporal massage that encourages the exchanges between the cells and the blood and between the blood and the cells: the entrance into the cells of good nutritional substances is therefore facilitated and, at the same time, so is the elimination of metabolic waste. The movements that technically make up lymphatic drainage are always carried out in the direction of the lymphatic current (a correct and not merely an approximate knowledge of anatomy is an indispensable guarantee to obtain satisfactory results) and the pressure applied is, in every case, very light.

This distinguishes the technique from other manual massages, consisting of stronger movements to a greater or lesser extent. The effect that is sought for, in the case of excess weight, is draining and toning. Drainage means the removal of fluids from the connective tissue and putting them into the circulatory stream; the tone of the tissues is encouraged by a supply of stimuli of tension in a physiological context, with an increase of the intra-lymphatic pressure.

Mention must be made of the very bad habit of wearing excessively tight corsets, tights and shoes that favour venous and lymphatic stasis (2).

The massage does not have a slimming action, but is useful as it activates the circulation. It does not "dissolve" fat but thanks to improved local circulation, it "mobilizes" it. It must be done by expert hands because, if deep and traumatizing, it can provoke inflammations of the subcutaneous layer and break the connective fibres.

There are different formulations to be applied for at least two months with a good massage. Some of these are listed below (3):

Ivy hydroglycolic extract	
Ruscus hydroglycolic extract	aa 10 g
Vitis vinifera hydroglycolic extract	aa 30 g
Excipient	

Ivy hydroglycolic extract	
Ruscus hydroglycolic extract	aa 15 g
Horse chestnut hydroglycolic extract	aa 45 g
Excipient	

Equisetum hydroglycolic extract	5 g
Horse chestnut hydroglycolic extract	10 g
Ivy hydroglycolic extract	10 g
Excipient	25 g

Hydroglycolic extract of Witch Hazel	5 g
Hydroglycolic extract of Vitis vinifera	5 g
Hydroglycolic extract of Ruscus	15 g
Excipient	25 g

Hydroglycolic extract of Ivy	
Hydroglycolic extract of Ruscus	aa 15 g
Excipient	aa 30 g

Of plants with vascular tropism that are useful for external application in the case of excess weight and obesity, the following can be mentioned:

Aesculus hippocastanum L.

Horse chestnut ensures considerable vasoprotective, anti-exudative and anti-edemous properties (3). It is a large tree, very common in parks and along the roadside, belonging to the family of the Hippocastanaceae and originally from northern Greece, Bulgaria and the Caucasus (4). The seeds, with the bark of the young branches, represent the drug. They are globular-ovoid, with a glossy brown tegument, on which a whitish spot can be distinguished corresponding to the hilum (5). The pharmacological action is mainly due to escine, a substance extracted in large quantities. Escine is a mixture of triterpenic saponines chemically distinguished into four groups: β -escine, made up of about thirty saponosides; cryptoeschine; α -escine, the hydrosoluble fraction; escinols or hydrolysed escines, considered biologically inactive. Escine is believed to act by provoking the release of anti-inflammatory substances of a glucocorticoid nature. The venous contraction induced is accompanied by an increase in the local production of prostaglandin F₂ which encourages the venous return (Bezanger-Beauquesne). Lastly, escine encourages coagulation in the presence of hypocoagulation, reduces the permeability of the basal walls, encourages the reduction of exudation and the reabsorption of edemas. Horse chestnut seeds also contain flavonoid compounds (glucosides of quercetine and campherol), coumarin (the main one is esculetin) and catechic tannins (about 2%). The bark contains various coumarinic glucosides (esculetin, fraxine, scopolin and their respective aglycones), the flavonolic glucoside (and the quercetine aglycone) and small quantities of escine. The activity exercised is similar to that of Vitamin P: it capillary permeability is decreased and capillary resistance is increased. The leaves and the flowers present a composition similar to that of the bark and, therefore, have, although with lesser activity, the same action and indication (4).

Vitis vinifera L.

It belongs to the family of the Vitaceae, shrubs with cirri opposite the leaves, which are lobate or compound (5). The

drug is represented by the leaves, rich in anthocyanosides (delphinidine, petunidine, malvidine), flavonoids (hyperine, quercetine), tannins and catechines (6). The anthocyanos are responsible for the vitamin-P-similar action of the plant, characterized by modulation of the permeability, tone and resistance of the capillaries (3). The first experimental observations of the activity of the anthocyanosides date back to the 1960s, when the effects were seen on the capillaries. Subsequently, double-blind clinical tests have shown the efficacy of anthocyanosides in patients with peripheral vascular troubles, where a reduction in the sense of tiredness in the legs, pain and subcutaneous edemas has been obtained; in patients with chronic venous insufficiency, there has been a reduction in the time necessary for peripheral venous drainage (6).

Ruscus aculeatus L.

Ruscus, or butcher's broom, has a particular vasoconstrictive activity. It also has a certain diuretic action and it was known for this quality from as early as Antiquity: Dioscorides recommended it in the form of a vinous macerate. In the Middle Ages, it continued to be used, especially by Arab doctors, as a diuretic (3). It belongs to the family of the Asparagaceae, close to that of the Liliaceae; it is a perennial and dioecious plant, with very small leaves, which is found in central and southern Europe, in north Africa and in western Asia (5). The roots and the rhizomes contain sterolic saponines (ruscogenin and neuroruscogenin as glucosides), traces of essential oil and mineral salts. The vasoconstriction exercised by preparations with ruscus is considered stronger than that of witch hazel and horse chestnut. In addition, ruscus acts on the post-synaptic adrenergic α and β receptors, increases the release of noradrenaline, boosts the action of free sodium and the activation of exogenous sodium. The constriction of the smooth muscles of the venous walls causes a rapid and specific venous return, associated with anti-phlogistic and anti-edemous actions (4). Therefore, it is particularly suitable in an overweight subject who presents problems of fluid retention, edemas and venous insufficiency in the legs (3).

Hydrocotyle asiatica L. - *Centella asiatica* (L.) Urban.

A herbaceous plant of tropical areas, it is cultivated in India. It belongs to the Umbelliferae and has orbicular or reniform leaves, with a long petiole and red flowers (5). Centella can improve the vascular-connective tropism, in time restoring the haemo-dynamic balance to the level of the micro-vascular-tissue system (3). Today it is successful as an anti-cellulite remedy, but as early as 1893, Dorvault described it in his famous work *L'officine*. The drug, represented by the leaves (and to a lesser extent, by the other aerial parts), contains numerous active ingredients: asiaticoside and madecassoside (the glucoside fraction), asiatic acid and madecassic acid (the acid fraction), amino acids (lysine, glutamic acid, phenylalanine, alanine, serine and aspartic acid), quercetine (a well known flavonoid that reduces capillary fragility), camphor, cineol and fatty acids (4). The triterpenic derivatives (asiaticoside) have modulating properties on the development of the connective tissue and it is precisely due to a probable alteration of the vascular-connective tropism that cellulite is believed to appear (3). Clinical tests have shown the efficacy of the Total Triterpenic Fraction (FTTCA), which has been used for years clinically in the treatment of cellulite, especially edematous cellulite in the legs (6). In addition, the components of centella can fix the amino acids and proline in the structure of the collagen, promoting a reinforcement of the perivascular and vassal connective structure (4). Centella is applied locally in an ointment or cream (3).

Other formulations for topical use (3):

Hedera h.	M.T.	5 g
Arnica m.	M.T.	2 g
Hamamelis v.	M.T.	3 g
Spiraea u.	M.T.	5 g
Fucus v.	M.T.	5 g
Excipient as necessary to		100 g
Fucus v.	M.T.	10 g
Hedera e.	M.T.	10 g
Hydrocotyle a.	M.T.	10 g
Gel as necessary to		100 g
Equisetum glycolic extract		15 g
Ginseng glycolic extract		15 g
Echinacea glycolic extract		20 g
Excipient as necessary to		100 g
Lavender glycolic extract		10 g
Harpagophytum glycolic extract		10 g
Ruscus glycolic extract		30 g
Gel base as necessary to		100 g

In external therapies linked with obesity, the following are useful:

Hamamelis virginiana L.

Witch hazel has astringent, vaso-constrictive and haemostatic properties (3). It belongs to the family of the Hamamelidaceae, it is a shrub or small tree with a twisted trunk, flexible branches, whole oval leaves with sinuate-dentate edges. It is very common in the damp forests of Canada and the northern United States. The drug is represented by the leaves, rich in long unicellular hairs, grouped in 4 - 12 especially on the lower face, near the nervation (5). The extracts, mainly glycolic, contain hamamelitannin (a mixture of gallotannins, gallic acid, hamamelose, catechines) (4) and are characterized by an outstanding astringent and lightening action, whilst the distilled water (obtained thanks to the essential oil content of the leaves) is a bland refresher and dereddener (3). Other components of the drug are choline, saponines, chinic acid and several flavonic compounds (4). For internal use, it is excellent in the case of phlebitis, varicose veins and haemorrhoids, dysmenorrhea and menopause-related problems, as it limits the congestive state of the pelvis. It is not toxic, but abundant sweating and salivation may appear due to high dosages (3).

Equisetum arvense L.

Belonging to the family of the Equisetaceae, the only living genus is *Equisetum*, which includes species common particularly in damp places all over the world. The *arvense* species, also called "horsetail", has fertile axes in the spring and sterile axes in the late summer (5). The parts used as a drug are the sterile stalks. It contains mineral salts (mainly silicic acid and potassium), flavonoids, saponines, organic acids, phytosterols and tannins (6). The use of *equisetum* to firm and elasticize dates back to the early twentieth century, but it has also been recently approved as a coadjutant in the treatment of cutaneous stretch marks (3). The main uses in therapy are based on the supply of silicon and on the biological properties of this element, which is present in nature in the form of silicon oxide and corresponding silicic acids. The human body contains 8-10 g of silicon and the skin and cutaneous appendages present a high percentage (6).

Panax ginseng Meyer - *Aralia quinquefolia* Decne, *Planch* A perennial herbaceous plant of the family of the Araliaceae, it grows wild in Nepal, Siberia, Korea, Canada

and Florida. It is cultivated in Japan and Russia. It has a tuberized root which can reach very large dimensions and represents the drug (5). The fame of ginseng comes from the millenary traditional application where it is used internally for its tonic-stimulant virtues (adaptogenic and balancing action). Externally, it has a revitalizing and reactivating activity on the epidermal cells and a firming activity (*Proserpio*). We owe it in particular to *Rovesti* if the plant was reported for the first time in the 1960s for possible phytocosmetic use for an anti-wrinkle, toning and firming effect of the face and neck. It is probable that the stimulating and toning effects are to be linked with the action of the saponines on the circulatory system. However, attention must be paid to the oestrogen content of the plant (3).

Hedera helix L.

This is a climbing shrub of the family of the Araliaceae, the vegetative branches of which have adventitious roots which the plant uses to adhere to walls and trees. The leaves are alternate, petiolated at length, with a dark green coriaceous blade, divided into 3-5 lobes. The floriferous stems, on the other hand, have whole oval leaves. It is common all over Europe. (5). Ivy for external use has analgesic, astringent and anti-cellulite properties (expectorant and emmenagogic internally). Advantage is taken of the anti-cellulite properties of the saponines and the sedative-soothing properties of the flavonoids and of the triterpene saponines contained in the drug (3). Recently, German scientists have shown a general activity of "thyroid stimulation" which also justifies a greater use of this medicinal plant in obesity. The active ingredients of climbing ivy are hederasaponines, flavonic glucosides (quercetin and rutin) and numerous mineral salts (aluminium, manganese, lithium, copper, calcium oxalate and arsenious trioxide) (4).

Echinacea angustifolia Heller

Echinacea shows cicatrizing and antiseptic (the native American Indians used it to heal wounds), coadjutant, firming and anti-stretch mark properties: the glycolic extracts occupy a considerable position in functional phytocosmetics. Together with *equisetum* and *ginseng* it has an elasticizing action at cutaneous level. Internally, it increases the defences of the organism in acute and chronic infections (3).

Lavandula vera DC. - *Lavandula angustifolia* Miller subsp. *angustifolia*

It belongs to the Labiatae, it is an odorless suffruticose plant, with ash-green opposed, linear or lanceolate and coriaceous leaves. Common in Mediterranean regions, it has its drug in its flowering tops: the flowers are small, in the axil of a membranous triangular oval bract, with a bluish calyx (5). Lavender is stimulating and aromatic. It does not only give us its pleasant aroma, but has medicinal virtues which are not to be overlooked. A hepatic drainer, its choleric power, as can be found in the majority of the Labiatae, is due to the presence of phenol acids (caffeic, chlorogenic and rosmarinic). With an anti-spasmodic activity, it can be of use in the treatment of some bronchial diseases (where it combines an antiseptic activity at the level of the bronchial secretions) and cephalic forms (friction with the tincture or... a sachet under the pillow). It is also diuretic and sudorific (rheumatic diseases). In high doses it is tonic and cordial (3).

The efficacy of the practice of balneotherapy with algae is linked essentially to thermal and physical-chemical factors: warm water (never above 38°C) causes a state of relaxation at muscular level which has a favourable influence on the state of the nervous system; in addition, the improved blood circulation at cutaneous level, caused by vasodilatation, gen-

erates a diaphoretic action which allows the elimination of organic toxins, fatty substances and the impurities of the skin. The iodine absorbed by the skin has a local action of metabolic stimulation, accelerating the distribution of fats. The rich mineral content of the water allows an active penetration of the ions at transcutaneous level which also continues after the bath, and so it is recommended not to get dried immediately. In addition, it is opportune, again to favour this mechanism, to use an acid soap applied with a horsehair glove before the bath. Baths with algae associated with natural aromatic essences are recommended (3). The essential oils - at times indicated with the terms of essences, ethereal oils, volatile oils - are intensely perfumed oleous, colourless, volatile liquids. They are insoluble in water, soluble in alcohol and ether and made up of one or more substances of an aromatic nature, most frequently represented by compounds belonging to the classes of terpenes, phenols and aromatic acids. Only in rare cases are the essences made up of a single substance (1). Essential oils have the capacity of penetrating through the skin and being rapidly diffused in the organism; they also transport the principles that are associated with them, thus acting as vectors.

In particular, the following are recommended for baths with algae:

- E.O. of Juniper, which activates the circulation, purifies the blood and can be used in all the alterations of the skin. In addition, it is astringent and antiseptic.
- E.O. of Lavender, which is anti-phlogistic, antiseptic, cicatrizing and activates the circulation. The name "Lavender" comes from "lavare" (to wash): the Romans used it in their baths. With a cytophilic activity, it promotes the regeneration of the skin's cells: for this reason, it is recommended as an agent of rejuvenation. The bath is refreshing, relaxing and encourages sleep.
- E.O. of Rosemary, as it is toning and astringent.
- E.O. of Lemon, because it is toning, activates the circulation and remineralizing (3).

Formulation for balneotherapy with algae by Dr. Moatti*:

A)*	E.O. of Lemon	
	E.O. of Rosemary	
	E.O. of Juniper	aa 5
	Alcohol at 90° necessary for	125 ml
B)*	Decoction of Carragaheen	100 g
	Decoction of Fucus v.	300 g

Boil in two litres of water for 15 minutes and filter.

For a complete bath: put all the decoction plus a tablespoon (15 ml) of the first formula. A decoction of ivy leaves, obtained by boiling 100g of leaves in three litres of water until it is reduced to about two litres or, more simply, by adding alcoholature of ivy, 1-2 tablespoons per litre of water. The temperature of the water for the bath must not be more than 38°C, the first bath will last 10 minutes, progressively increasing to 30 minutes and no more. The frequency will initially be every two days; then it can be daily for cycles of ten days. These baths are tiring and are to be avoided in subjects with cardio-circulatory problems or who are strongly asthenic. After the bath, a shower with a powerful jet of warm water (25°C or not less than 20°C) is recommended, with the absolute obligation of lying down well covered for at least half an hour and never for less than 15 minutes.

The contraindications are those of classic balneotherapy (acute inflammation, cardio-circulatory decompensation, hyperthyroidism, ...). Balneotherapy with algae may be particularly valuable because, as well as its multiple activities (relaxing, detoxicating), it offers the opportunity to take

actio, in a way that is also agreeable, on one's own image.

* Fauron R., Moatti R., Donadieu Y., *Guide pratique de phytothérapie*, Ed. Maloine, 1984. (3).

The utility of balneotherapy with algae can be understood from the indications of use:

1. in orthopaedics, in the consequences of traumatism and post-surgery re-education
2. states of arthrosis
3. rickets, retarded growth, osteoporosis
4. psycho-physical asthenia, convalescence, stress
5. obesity, cellulite
6. venous insufficiency of the legs, arteriosclerosis, hypertension
7. acne, pruriginous dermatitis, seborrhea of the scalp, ageing and poor tone of the skin
8. menopause
9. neuromuscular consequences. (3).

The term "thermal cures" refers to all those disciplines that can represent a valid support in the treatment of excess weight: balneotherapy, mud treatment, mineral water therapy ...

In fluid retention, for example, the use of waters with a low mineral content encourages an action of the physiological type and diuresis that is effective and safe, even if prolonged. Due to the stimulating action on the thyroid, chloride-bromide-iodic (Salsomaggiore Terme, Castrocaro Terme, Sassuolo - Salvarola Terme, Monticelli Terme, Termini Imereze, Castellamare di Stabia and Brisighella, ...) and chloride-iodic waters with marine algae (Terme di san Giovanni - Elba) are recommended (3). These are waters, the local application of which has an anti-phlogistic and tonic action in the case of poor venous and lymphatic circulation. Due to the action at hepatic level and as a stimulus on the general metabolism, sulphurous waters (with the typical putrid odour due to hydrogen sulphide) with a reducing activity and bicarbonate-sulphate-alkaline-earthly and chloride-sulphate-alkaline waters are excellent (Riolo, Boario, Chianciano, Montecatini, Saturnia, ...), which act in cases of degeneration of tissues of the microcirculation, better if associated with the pressure jet of hydromassage and manual massages. From the strictly clinical point of view, thermal cures can be of use in the treatment of complications of obesity. In forms of slight diabetes, mineral water treatment with chloride-sulphate-alkaline, sulphate-alkaline and sulphurous waters is recommended. In chronic bronchopneumopathies, chloride-bromide-iodic and sulphurous waters are recommended. In hepatic and gall bladder complications, as well as the cure with mineral water, baths in concentrated mineral waters are deemed valid associated with a shower on the hepatic region and mud treatment (3).

For domestic balneotherapy, the following formulation can be of use:

Heather flowers
Juniper berries
Willow bark
Meadowsweet flowers
Thyme s.p. aa 50 g

Boil five handfuls in two litres of water and add to the bath water (twice a week). (3).

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