



VINCA L. – GENUS

Order: Gentianales Juss. ex Bercht. & J.Presl

Family: *Apocynaceae* Juss.

Tribe: Vinceae

According to some authors, the name *Vinca* derives from the Latin *vincire* (to tie), because of the thin and flexible stems, while according to others it derives from the verb *vincere* (to win), perhaps as an allusion to the ability of the herb to fight diseases or to withstand the ravages of weather. [Peroni]

The *Vinca* genus counts 6 species (accepted names): *Vinca difformis* Pourr., *Vinca erecta* Regel & Schmalh., *Vinca herbacea* Waldst. & Kit., *Vinca major* L., *Vinca minor* L., and *Vinca soneri* Koyuncu. It is a member of the *Apocynaceae* family, which also includes the genera *Catharanthus*, *Rauwolfia*, *Apocynum*, *Trachomitum* and *Oleander*, well known for including medicinally powerful and very often poisonous plants.

V. minor L. (lesser periwinkle) and *V. major* L. (greater periwinkle) are probably the best known species belonging to the genus.

VINCA MAJOR L., VINCA MINOR L.



Fig 1: Vinca minor L.

<i>Primary functionality:</i>	Venus [Culpeper] Sun; Cancer [Angelini] Saturn [Murphy]
<i>Secondary functionality:</i>	
<i>Nature:</i>	Cold and dry with a hot and dry part.
<i>Taste:</i>	Astringent, acrid and very bitter [Durante, Giannelli, Mattioli, Wood]
<i>Tropism:</i>	Uterus, stomach, digestive system, nervous system, skin
<i>Humoral actions¹:</i>	Eliminate excess heat and/or fluids, toxic heat and phlegmatic-bilious residues, and resolve Tension excess and stagnation; supplement deficient Tension (in nervous system, digestive system, uterus, urinary organs and mucous membranes in primis) and help to preserve correct Phlegm
<i>Clinical actions:</i>	Antidiabetic, antidiarrheic, anti-hypertensive/hypotensive, anti-inflammatory, antiscorbutic, astringent, carminative, decongestant, depurative, digestive, diuretic, febrifuge,

¹ See the "Notes on humors" paragraph.

galactofuge, hemostatic, laxative, sedative, spasmolytic, tonic, vasodilator, vasoprotective, vulnerary

Used parts: Aerial parts, flowering aerial parts, whole plant, flowering whole plant, roots

Description

Even if the alkaloid composition of *V. minor* and *V. major* differ somewhat, nonetheless they are usually considered as generically interchangeable from the medicinal point of view, apart from some differences.

Castore Durante, who, like Mattioli, called the periwinkles “first clematis”, tells that “*two types are found, i.e. major and minor*” and describes them without making any further distinctions. [Durante]

James A. Duke writes: “*Most authors suggest that the greater and lesser periwinkle are generically interchangeable medicinally, and I agree, so far.*” [Duke]

According to Gabriele Peroni “*in Italy four species of Vinca are recognized: V. minor L., V. major L., rather common; the rare V. difformis Pourret and the very rare, endemic V. sardoa (Stearn) Pignatti. They all share the same medicinal properties.*” [Peroni]

According to Mrs. Grieve, *V. major* is “*the species more generally used in herbal medicine, as an astringent and tonic, in menorrhagia and in haemorrhages, also as a laxative, and gargle*”, while *V. minor* is “*employed in homoeopathy for preparation of a tincture used for haemorrhages.*” [Grieve] Anyhow she later states that “*both species of Periwinkle are used in medicine for their acrid, astringent and tonic properties,*” and that “*the small periwinkle possesses all the virtues of the other kind and may very properly supply its place.*” [Grieve]

Matthew Wood tells that “*although the properties are similar, the greater has been cited as a lymphatic alterative and the lesser as a cerebral tonic (Menzius-Trull).*” [Wood]

Peter Holmes describes the differences in a more extensive manner: “*Greater periwinkle is a reliable astringent and mucous decongestant herb with a significant hemostatic action, especially (but not solely) for menorrhagia and metrorrhagia. It will also stop leakage and discharge from the digestive and urogenital organs and is also used in formulas for diarrhea, leucorrhoea and urinary leakage, including enuresis.*”

The Lesser periwinkle [...] has somewhat different applications. The herb and root are both employed, which contain the alkaloid vincamine as well as tannins. This bitter, pungent remedy is used as a restorative for anemia and anorexia, and as a pungent carminative for damp intestinal conditions with dyspeptic flatulence, indigestion and belching. Its astringent action will treat discharges and hemorrhage, especially diarrhea, leucorrhoea and hemoptysis. Lesser periwinkle is also hypotensive in hypertension (an African medicine use) and antidiabetic. Like Ginkgo leaf, this remedy also mildly increases cerebral circulation (an action of vincamine), indicating use for loss of mental focus and memory, dizziness, headache, tinnitus, peripheral arterial deficiency and so on.” [Holmes]

In this text, therefore, we will treat both *V. minor* and *V. major* in an indistinguishable way, except for any differences which will be explicitly highlighted.

Very bitter plants, rich in tannins and alkaloids (see paragraph "*Vinca alkaloids*"), periwinkles have astringent, antispasmodic and purifying properties. According to Durante, "*Of its leaves, and likewise of the stems, the decoction made in wine, and drunk, resolves dysentery, and the other fluxes of the body, and the leaves eaten in fritters stagnate the menses: Drunk with vinegar, the leaves are beneficial to the bites of asps as well.*" [Durante]

A particular use, certainly connected to the astringency of the plants, is described as follows: "*Tied this herb around the thighs, it stagnates the flow of menses, and prevents pregnant women from aborting. Placed on the head, and wrapped around the neck, it stagnates the blood from the nose, and is usefully put into wound drinks, and poultices*". [Durante]

Their roots are recognized as having diuretic and hypotensive properties, while the leaves (which constitute the part most often used in medicine) are recognized as astringent, antiscorbutic, diuretic, vulnerary, tonic, haemostatic, purifying, digestive, decongestant and slightly galactofuge. With periwinkles, medicated wines are prepared which are administered to treat anemia and anorexia and as tonic coadjuvants in convalescence. [Peroni]

Due to their astringent and purifying properties, periwinkles are also used externally as remedy for abscesses, sores and bruises (in the form of poultices) and for sore throat and inflammation of the oral cavity (for rinses and gargles). [Peroni]

According to Duraffourd and Lapraz, *V. minor* (the authors do not mention *V. major*) is a herb with a mixed endocrine and exocrine pancreatic tropism, with a spasmolytic activity (sympatho- and parasympatholytic), and has galactofuge, vasodilator and cerebral hypotensive, capillary protector, coronary artery dilator, analgesic, and FSH-stimulating. [Duffourd-Lapraz]

Vinca alkaloids

Alkaloids are rather abundant in the *Apocynaceae* family, and also the *Vinca* species contain several of them.

The name "*vinca alkaloids*" usually refers to a set of bisindole alkaloids, vinblastine and vincristine being the best known, contained in the Madagascar periwinkle and used as antineoplastic agents. Even if originally classified as *Vinca rosea* L., Madagascar periwinkle has been moved to the *Catharanthus* genus and it is now classified as *Catharanthus roseus* (L.) G. Don.

The plants strictly belonging to the *Vinca* genus also contain indole alkaloids, but they are mostly monoindole derivatives and therefore they are structurally different from those contained in *Catharanthus roseus*. In *V. minor* indole alkaloids amount to abt. 0.15-1.4% of the plant dry weight [PDR, Vachnadze]. So far, more than 50 such alkaloids have been isolated from the aerial parts and the root of *V. minor*, a few of which have a quaternary ammonium salt structure (1,4-dimethyl-2,16-dihydroakuummicinium chloride, 4-methylraucubaininium chloride, 4-methylstrictaminium chloride and 4-methylakuammicinium chloride, all contained in the leaves). [Farahanikia, Proksa4]

Vincamine is the dominant alkaloid in *V. minor* (0.02-0.13% of the dried plant weight) [AHPA, Farahanikia, Karabaev, Proksa3, Vachnadze, Weiss]. Also reserpine have been isolated from *V. minor* [Malikov, PDR].

Vincarubine is the only bisindole alkaloid isolated so far from lesser periwinkle² (it is found only in the leaves, abt. 0.007% [Proksa3]). Vincarubine has shown a considerable cytotoxic effect against the P388 leukemia cells; indeed, it inhibits the incorporation of precursors of proteosynthesis and synthesis of nucleic acids into P388 cells (even if to a smaller extent than vincadifformine, another monomeric indole alkaloid isolated from *V. minor*). The cytotoxic effect of vincarubine is greater than that of vinblastine. Unlike vinblastine, vincarubine displays inhibition of the RNA synthesis and does not exhibit mutagenic effects. [Bahadori, Farahanikia, Proksa, Proksa2]

V. major also contains indole alkaloids, among which vincamine (even though in a lesser quantity than *V. minor*) and other alkaloids not found in *V. minor* [Cheng, Ciorîță, Malikov].

Vinblastine and vincristine **are not present at all** in *V. minor* nor in *V. major*, although several sources erroneously mention them in lesser periwinkle.

The toxicity of vincamine and the other indole alkaloids found in *V. minor* is quite low [Rossi]. In different acute toxicity studies, the oral LD₅₀ for vincamine has been found to be 810 or 1200 mg/kg in rats and 460, 825, or 1000 mg/kg in mice. Ventricular extrasystoles were observed in rabbits after oral administration of 20 mg/kg vincamine. [AHPA, EMEA]

In subacute toxicity tests, no signs of toxicity were observed in rats orally administered 30 or 100 mg/kg of vincamine daily for 6 weeks. In rats orally administered 120 mg/kg of vincamine for 6 days, no changes in liver enzyme levels were observed. [AHPA, EMEA]

In mice, the LD₅₀ for intraperitoneal injections of aqueous vincamine solutions was 375 mg/kg. The LD₅₀ values for the total common periwinkle alkaloid extract were 400 mg/kg for intraperitoneal injections and above 600 mg/kg for peroral administration. [Vachnadze]

In subchronic toxicity tests, no signs of toxicity were observed in rats orally administered 6.6, 20, or 62 mg/kg of vincamine or guinea pigs given 2.5 mg/kg daily for 3 months. In dogs orally administered 1, 7, or 20 mg/kg of vincamine daily for 3 months, behavioral changes were observed at the 20 mg/kg dose, with no effects reported at lower doses. [AHPA, EMEA]

James Duke reports, for *V. minor*, the following LD₅₀ values in mice: for “drug” (not better specified) 1400 mg/kg i.p., for “mixed alkaloids” 76 mg/kg i.p., 24 mg/kg i.v. and 500 mg/kg oral administration. For *V. major*, he reports LD₅₀ (mixed alkaloids) = 37 mg/kg i.v. in mice. [Duke]

Vincamine has been found to have a hypotensive action, similar to that of reserpine, and to reduce the response to angiotensin. Its administration produces a reduction in diastolic blood pressure and a simultaneous lowering of the cerebral concentration of norepinephrine, with consequent vasodilatation of both coronaries and cerebral capillaries: reduced cerebral flow shows a definite increase, cerebral oxygen consumption rises, and the arteriovenous glucose difference increases. [Peroni, Rossi, Weiss]

This activity also corresponds to a protective effect on the vessel walls, especially those of capillaries. [Rossi]

Both vincamine and vinpocetine (ethyl apovincaminatate), a synthetic derivative of vincamine, are currently approved as dietary supplements in US and Canada mainly as nootropics. Vincamine is sold as a prescription drug in Europe. The main indications for vincamine are disorders of cerebral blood flow and metabolism due to arteriosclerosis, the sequelae of brain trauma and the sequelae of strokes with symptoms such as poor memory, behaviour disorders, irritability,

² Another bis-indole alkaloids, vincalutine, is reported for *V. minor* in [Bahadori], but no other reference mention it.

restlessness, speech disorders, vertigo and headaches. Lack of attention and memory disorders, as well as emotional disorders due to mild forms of cerebral arteriosclerosis respond well to vincamine. [Weiss]

The drug has also a good effect on tinnitus and hearing defects in old age, on the dizziness that occurs with Ménière's syndrome and on disorders of blood flow in the retina. [Weiss]

When vincamine is given orally, between three and six weeks usually are needed before subjective and objective improvement are noted. [Weiss]

Tolerance of vincamine is quite good. Gastrointestinal symptoms do sometimes develop, but they are always reversible and not very marked. [Weiss]

Properties

Temperature and taste

According to the authors which are closest to the Hippocratic-Galenic tradition, periwinkles (*V. major* and *V. minor*) are cold and dry, with an astringent and very bitter taste [Durante, Giannelli, Mattioli].

Culpeper classifies them as "*Hot in the second degree, something dry and binding*". [Culpeper]

According to Matthew Wood, they are acrid and astringent and suitable to treat the constriction and relaxation tissue states [Wood].

The unquestionably astringent and anti-inflammatory/analgesic abilities of the two plants, particularly well known to classical and Renaissance authors, justify their classification as cold and dry drugs. However, the acrid-bitter taste, which accounts for their purifying, tonic and "relaxing" action on tissue constriction, is a decidedly warm characteristic.

We will therefore say that periwinkles are drugs with a dual nature, in which a cold and dry part (Earth) and a decidedly hot and dry part (Bile) coexist.

Signature

Culpeper tells "*Venus owns this herb, and saith, That the leaves eaten by man and wife together, cause love between them.*" [Culpeper]

Angelo Angelini classifies it as a plant with a Jovian function and Cancerian potential, acting on brain-spinal cord and stomach [Angelini].

According to Robin Murphy, periwinkles are associated to the planet Saturn. [Murphy]

Tissue Phases

N/A

Actions and indications

Humoral actions

Periwinkles have a purifying and anti-inflammatory/analgesic action, as can be inferred from their strongly bitter taste. They also have a dispersing action on excessive Tension (especially at the level of blood vessels and the brain). In humoral terms, they eliminate excess heat and/or fluids, toxic heat and phlegmatic-bilious residues, and resolve Tension excess and stagnation (they are both sympatho- and parasympatholytic).

Astringency accounts for their ability to dry excess fluids and to stop the body “fluxes” (excessive menstruation, hemorrhage, leucorrhea, enuresis, diarrhea): in this sense, they act by supplementing Tension where its deficiency causes fluid (Phlegm) loss. The tonic action (supplementing of Tension) exercised both on the digestive and the nervous system can be attributed to the acrid-bitter taste of the plants. In humoral terms, they supplement deficient Tension (in nervous system, digestive system, uterus, urinary organs and mucous membranes in primis) and help to preserve correct Phlegm.

Tropism

Uterus, stomach, digestive system, nervous system, skin.

Clinical actions

Antidiabetic, antidiarrheic, anti-hypertensive/hypotensive, anti-inflammatory, antiscorbutic, astringent, carminative, decongestant, depurative, digestive, diuretic, febrifuge, galactofuge, hemostatic, laxative, sedative, spasmolytic, tonic, vasodilator, vasoprotective, vulnerary.

Principal actions

Anti-diabetic (*V. minor*). [Holmes]

Antidiarrheal [Culpeper, Giannelli, Peroni, Zevin]:

- Liter.: “*Dioscorides, Galen, and ægineta, commend it against the lasks [diarrhea] and fluxes of the belly to be drank in wine.*” [Culpeper]

Analgesic, anti-inflammatory. [Duraffourd-Lapraz, Giannelli, Peroni, Rossi, Zevin]

Anti-hypertensive/hypotensive. [Holmes, Peroni, Rossi, Zevin]

Anti-scorbutic (leaves). [Peroni]

Astringent [Holmes, Peroni, Zevin]; mild astringent tonic (Tenore) [Peroni].

Carminative (*V. minor*) [Holmes]:

- for damp intestinal conditions with dyspeptic flatulence, indigestion and belching. [Holmes]

Decongestant (leaves). [Peroni]

Depurative [Peroni, Zevin]; (leaves) [Peroni].

Digestive (leaves). [Peroni]

Diuretic (leaves, roots) [Peroni]:

- as a diuretic and hypotensive (2% root decoction: 2-3 cups a day). [Peroni]
- as a diuretic (tincture of roots: 10-15 drops 2-3 times a day). [Peroni]

Hemostatic. [Culpeper, Holmes, Peroni, Rossi]; (foglie) [Peroni]

Febrifuge. [Rossi]

Galactofuge [Duraffourd-Lapraz, Peroni, Rossi]:

- mild galactofuge (leaf powder: 1 g, 2-3 times a day). [Peroni]

Laxative (fresh flowers or fresh flower syrup) [Grieve, Holmes]:

- Liter.: *“The flowers of the Greater (and probably also of the Lesser) Periwinkle are gently purgative, but lose their effect on drying. If gathered in the spring and made into a syrup, they will impart thereto all their virtues, and this, it is stated, is excellent as a gentle laxative for children and also for overcoming chronic constipation in grown persons.”* [Grieve]
- Liter.: *“Fresh Periwinkle flower syrup is a nice laxative in occasional constipation.”* [Holmes]

Sedative [Zevin]:

- Liter.: *“Drinking periwinkle tea has a calming effect on the central nervous system and is recommended for people who are nervous and tense.”* [Zevin]

Spasmolytic (sympatho- and parasympatholytic). [Duraffourd-Lapraz]

Tonic [Grieve, Holmes, Peroni]:

- Restorative for anemia and anorexia (*V. minor*). [Holmes]

Vasodilator. [Duraffourd-Lapraz, Peroni, Zevin]

- Cerebral hypotensive and vasodilator, coronary artery dilator. [Duraffourd-Lapraz]

Vasoprotective [Duraffourd-Lapraz, Peroni]:

- In particular toward microcirculation. [Peroni]
- Capillary protective. [Duraffourd-Lapraz]

Vulnerary. [Peroni, Zevin]

Specific indications

In this section, all entries refer to both *V. minor* and *V. major* (and possibly also at least to *V. difformis* subsp. *sardoa* Stearn), unless explicitly indicated otherwise.

General

- *Weakness and prostration* [Clarke, Murphy, Phatak, Scholten, Vermeulen, Vermeulen2]:
 - *Weakness as if he would die.* [Clarke, Murphy, Phatak, Scholten, Vermeulen]

- The stool caused exhaustion. [Clarke, Murphy]
- Great debility accompanying menses/uterine haemorrhage. [Boericke, Clarke, Murphy, Phatak, Scholten, Vermeulen, Vermeulen2]
- Anemia [Holmes, Peroni]:
 - (Medicated wine). [Holmes]
 - As a restorative (*V. minor*). [Holmes]
- Convalescence (medicated wine, ad a tonic coadjuvant). [Peroni]
- Drowsiness (2% whole plant infusion: 1/2 liter per day). [Peroni]
- Cancer (*V. major*) [Wood], (*V. minor*) [Murphy].

Mind

- Behavior disorders, lack of attention, irritability, restlessness (*V. minor*). [Wood]
- Loss of mental focus, poor memory (*V. minor*). [Holmes, Weiss, Wood]
- Nervous disorders [Grieve]:
 - Liter.: “*may be used with advantage in hysteric and other fits.... It is good in nervous disorders.*” [Grieve]
- Trembling sensation, especially in upper limbs, and tendency to be startled, especially during mental exertion. [Clarke, Murphy, Phatak, Vermeulen, Vermeulen2]
- Nightmares. [Grieve, Wood]
 - Liter.: “*the young tops made into a conserve is good for the night-mare.*” [Grieve]

Head

- *Spots on scalp, oozing foul moisture, matting hair together* [Boericke, Hansen, Murphy, Phatak, Scholten, Vermeulen]. *Crusta lactea* [Clarke, Hansen, Murphy]. *Favus* [Clarke, Murphy]. *Plica polonica* [Boericke, Clarke, Hansen, Murphy, Phatak, Reckeweg, Scholten].
- Headache, migraine [Holmes, Peroni, Rossi, Weiss]:
 - (mother tincture: 30-40 drops, 3-4 times a day). [Peroni]
 - Headache, temporal to crown, ache behind the eyes, watery eyes (*V. minor*). [Wood]
- Vertigo (*V. minor*) [Boericke, Holmes, Murphy, Rossi, Scholten, Vermeulen, Weiss, Wood]; (*V. major, V. minor*) [Peroni]:
 - (mother tincture: 30-40 drops, 3-4 times a day) [Peroni]
- Cerebral atherosclerosis. [Weiss, Wood]
- Sequelae of brain trauma. [Weiss]
- Sequelae of strokes. [Weiss]

Ears

- Tinnitus (*V. minor*). [Boericke, Holmes, Murphy, Scholten, Vermeulen, Wood]
- Hearing deficit (*V. minor*) [Weiss, Wood], in old age [Weiss].
- Ménière syndrome (*V. minor*) [Rossi, Vermeulen, Weiss, Wood]; (*V. major* e *V. minor*) [Peroni]
 - (mother tincture: 30-40 drops, 3-4 times a day) [Peroni]
- Otitis (external use) [Durante, Giannelli]:
 - (plant juice). [Durante]

Eyes

- Disorders of blood flow in the retina (vincamine). [Weiss]
- Optic atrophy (*V. minor*). [Wood]

Mouth and throat

- Inflammation of the mouth, angina, pharyngitis (gargle with decoction or herb chewed) [Holmes, Peroni, Zevin]:
 - (6% leaf decoction, as a mouthwash). [Peroni]
 - Gingivitis. [Wood]
 - Stomatitis. [Reckeweg]
 - Glossitis. [Reckeweg]
 - Liter.: "*Michele Tenore proposed the decoction, at the dose of '15 grams of herb for each jug of water', in 'relaxation of the uvula'.*" [Peroni]
- Relaxed sore throat, swollen tonsils, inflamed tonsils (gargle). [Grieve, Holmes, Wood]
- Tootache (external use) [Durante, Giannelli, Mattioli, Zevin]:
 - (chewed leaves) [Durante, Mattioli]; (plant juice) [Durante].

Cardio-circulatory system

- *Hemorrhages* [Boericke, Clarke, Culpeper, Grieve, Hansen, Peroni, Rossi, Scholten, Vermeulen, Vermeulen2]:
 - Internal hemorrhages [Grieve, Peroni]:
 - (1-2% leaves infusion: a spoonful every half hour). [Peroni]
 - Liter.: "*A homoeopathic tincture is prepared from the fresh leaves of Vinca minor and [...] is given medicinally for the milk-crust of infants as well as for*

internal haemorrhages, the dose being from 2 to 10 drops, three or four times in the day, with a spoonful of water.” [Grieve]

- Hemorrhages from nose [Clarke, Culpeper, Grieve, Hansen, Holmes, Murphy, Zevin], mouth [Culpeper, Grieve, Holmes, Zevin], lungs, bowels [Hansen], uterus [Boericke, Clarke, Murphy, Hansen, Phatak, Scholten, Vermeulen, Vermeulen2].
 - Nasal bleeding [Grieve, Wood, Zevin]:
 - (bruised leaves put into the nostrils). [Grieve]
 - Frequent nosebleed. [Clarke, Murphy]
 - Hemoptysis (*V. minor*). [Holmes]
 - Liter.: “*stays bleeding both at mouth and nose, if some of the leaves be chewed.*” [Culpeper]
- Wounds (as a vulnerary, external use) [Giannelli, Zevin]; to heal war wounds [Zevin]; to treat minor wounds (decoction) [Zevin].
- Hypertension (leaves, roots; decoction, tincture) [Peroni, Rossi, Vermeulen, Zevin]:
 - Hypertension affecting the microcirculation and the peripheral vascularization. [Rossi]
- Vascular insufficiency [Holmes, Peroni, Rossi]:
 - peripheral (mother tincture: 30-40 drops, 3-4 times a day). [Peroni]
 - peripheral with vascular sclerosis in geriatric patients. [Rossi]
 - with spasmophilia (mother tincture). [Peroni]
 - Peripheral arterial deficiency (*V. minor*). [Holmes]
- Coronary insufficiency with spasmophilia [Peroni, Rossi]:
 - (mother tincture: 30-40 drops, 3-4 times a day). [Peroni]
- Vascular sclerosis [Peroni, Rossi]:
 - (mother tincture: 30-40 drops, 3-4 times a day). [Peroni]
- Angina pectoris. [Peroni]

Gastrointestinal system

- Diarrhea (foglie) [Culpeper, Durante, Giannelli, Grieve, Holmes, Mattioli, Peroni, Zevin], Enteritis [Peroni].
- Dyspepsia, flatulence. [Wood]
- Damp intestinal conditions with dyspeptic flatulence, indigestion and belching (*V. minor*). [Holmes]
- Relaxation of the intestines, chronic diarrhea, chronic constipation. [Wood]
- Mucus in the intestines. [Grieve, Wood]
- Gastric hemorrhage. [Wood]
- Hemorrhoids (external and internal use) [Clarke, Grieve, Holmes, Murphy, Wood]:

- (Ointment made with lard). [Grieve]
- For bleeding piles, it may be applied externally, as well as taken internally. [Grieve]
- Bleeding internal hemorrhoids. [Wood]
- Hemorrhoids constantly sore, smarting after stool. [Clarke, Murphy]

Metabolism

- Diabetes [Duke, Peroni, Wood]:
 - (fluid extract: 3-5 g a day). [Peroni]
 - Diabetes (*V. minor*). [Duke]
 - Diabetes mellitus (*V. major*). [Wood]
- Hypoglycemia (*V. major*). [Wood]
- Anorexia (medicated wine, fluid extract) [Peroni]:
 - to activate stomach functions in anorexia (fluid extract: 3-5 g per day). [Peroni]
 - As a restorative (*V. minor*). [Holmes]

Immune system and respiratory system

- *Diphtheria*. [Boericke, Hansen, Murphy, Scholten]
- Chronic catarrh (leaves) [Peroni], mucus in the lungs [Grieve, Wood].
- Intermittent fevers (leaves). [Peroni]

Urinary system

- Urinary leakage, including enuresis (*V. major*). [Holmes]

Female sex organs

- PMS (*V. minor*). [Wood]
- Uterine spasms (external use). [Giannelli]
- Prevents abortion [Durante, Giannelli, Mattioli]:
 - Liter.: “Tied this herb around the thighs, it stagnates the flow of menses, and prevents pregnant women from aborting.” [Mattioli]; simil. [Durante]
- *Menorrhagia, metrorrhagia* [Culpeper, Durante, Grieve, Holmes, Mattioli, Wood, Zevin]:

- *Menses profuse* (menorrhagia), *flowing continuously like a stream, with extreme weakness* [Boericke, Clarke, Murphy, Phatak, Scholten, Vermeulen, Vermeulen2], faintness, and chilliness [Vermeulen]; blood dark red [Clarke, Murphy, Vermeulen2].
- *Passive uterine haemorrhages*. [Boericke, Clarke, Murphy, Scholten]
- Menometrorrhagia at climacteric. [Boericke, Hansen, Murphy, Phatak, Scholten].
- Bleeding fibroids. [Boericke, Hansen, Murphy, Phatak, Scholten]
- To reduce excessive menstrual flow and curb blood loss between periods. [Zevin]
- (infusion of leaves at 1-2%: one glass in the morning on an empty stomach). [Peroni]
- Metrorrhagia (decoction of leaves at 6%, for douche). [Peroni]
- Vaginal discharge, leucorrhoea. [Holmes, Peroni, Wood]
- Breast engorgement, mastitis, galactorrhea. [Peroni, Wood]

Limbs

- Cramps. [Grieve, Murphy, Wood]
 - Cramp in the lower limbs. [Wood]
 - Cramp-like drawing in feet and toes. [Murphy]

Skin

- Congested, red, ulcerated and itchy tissues; sores, ulcers (infusion, poultice, or ointment; external use) [Holmes, Peroni, Wood, Zevin]:
 - (5% leaf infusion: for washings and compresses). [Peroni]
 - Exudative rash, head eczema (6% leaf decoction, for poultices). [Peroni]
 - Skin rash and itching (infusion, external use: effective treatment). [Zevin]
 - Dermatitis (external use). [Holmes]
- *Eczema* [Boericke, Hansen, Murphy, Phatak, Scholten, Vermeulen2], especially pustulous [Hansen] or weeping, intermingled with foul, thick crusts [Murphy, Phatak].
- Abscesses (poultice as a resolutive, external use). [Peroni]
- Bruises (poultice as a resolutive, external use). [Peroni]
- Milk crust of infants [Clarke, Grieve, Hansen, Murphy, Wood]:
 - (tincture of fresh leaves of *V. minor*). [Grieve]
 - (*V. minor* tincture; 2–10 drops in water, 3-4x/day). [Wood]
- Dandruff. [Wood]
- Poisonous snake bite (leaf poultice). [Durante, Mattioli]

Parts used and their collection

The aerial parts (leaves only or both stems and leaves) are the portion of periwinkles which is used most often [Holmes, PDR, Peroni, Reckeweg, Rossi, Zevin], but sometimes also the roots or the whole plant are used, especially in the case of *V. minor* [Clarke, Peroni, Holmes].

The aerial parts or the whole plant are harvested from May to July-August [Peroni, Rossi], or in early spring, at the beginning of [Reckeweg] or during flowering [Zevin]. The aerial parts or the whole plant are dried in the shade or used fresh to make a hydroalcoholic tincture (1:3 in 30% ethanol [Holmes] or 1:10 (dry weight) up to a final strength of abt. 60% [Rossi]; the solvent can be slightly acidified to help the solubilization of the alkaloids [Rossi]).

The roots are harvested in spring or autumn and dried in the sun or used fresh to make a hydroalcoholic tincture. [Peroni]

For homeopathic preparations, the whole fresh plant is used. [Clarke, Murphy]

Fresh periwinkle flower syrup is a nice laxative in occasional constipation. [Holmes]

Preparation and dosage

The dried plant can be administered as a powder or, roughly cut, can be used to make infusions and decoctions. The dried or (better) fresh plant can be used for making tinctures. [Duke, Holmes, PDR, Peroni, Wood, Zevin]

Powder dosage: 2-4 g. [Duke]

Infusion (*V. minor*): 1 teaspoonful dry herb in 200-250 ml boiling water, steep for 10-15 minutes, then strain [Duke, PDR, Wood]. Dosage: 2-3 x/day [Duke, PDR].

Infusion (*V. major*): 2-4 g dry herb in 250 ml boiling water. Dosage: up to 3 x/day. [Duke]

Decoction: put 20-60 g of drug in 1 liter of water; heat to boiling, reduce heat and simmer for 2-15 minutes; turn off the flame and steep for 10 minutes-1 hour, then strain [PDR, Zevin]. Dosage: 2-4 cups between meals or 1 cup after meals for diarrhea [PDR]; 1-2 tablespoons (15-30 ml) every 2 hours [Zevin].

Medicated wine: macerate 100 g of drug in 1 l of wine for 10 days, decant and press [Duke, PDR]. Dosage: 1 dessertspoonful [abt. 9 ml] after meals [Duke].

Liquid for gargling or washing: boil 2 dessertspoonfuls of drug for a few minutes in 1/2 liter water. Dosage: as needed. [PDR]

Tincture dosage (*V. major* and *V. minor*): 2-5 ml at 1:3 strength in 30% eth. [Holmes]; 1-3 drops of fresh or dried leaves tincture 1-3x/day [Wood].

Contraindications and collateral effects

V. minor and *V. major* have a low toxicity. AHPA reports a Safety Class 1 ("Herbs that can be safely consumed when used appropriately") and Interaction Class A ("Herbs for which no clinically relevant interactions are expected") for *V. minor* [AHPA]. James Duke reports a Class 2d ("Restrictions as noted") for *V. minor* [Duke].

No health hazards are known in conjunction with the proper administration of designated therapeutic dosages. [Duke, PDR, Weiss]

Some authors suggest that the flowers can be used as a decoration in salads [Tucci]. In Sardinia, the bottom of the corolla of *Vinca difformis* subsp. *sardoa* Stearn is sucked to extract the nectar from the nectaries present therein [Atzei].

Gastrointestinal complaints and skin flushing³ have been observed as side effects [Duke, PDR, Weiss]. Being a galactofuge, it causes reduction in milk flow [Rossi].

Overdosage can bring about a severe drop in blood pressure [Duke, PDR]. Cases of poisonings have not yet been recorded [PDR].

Commission E reports hematological changes (e.g., leucocytopenia, lymphocytopenia, reduced globulin levels) have been observed in animals. [AHPA, Duke, Rossi]

Indeed, in an experiment with rabbits, administration of dried and powdered *V. minor* leaves and stalks caused transient decrease in the numbers of white cells and lymphocytes in the peripheral blood of the rabbits, a transient decrease in the levels of total serum protein, α_1 , α_2 and γ -globulins and a rise of the β -globulin fraction. Albumins were almost unchanged. Fourteen days after discontinuation of the herbs, the altered parameters gradually returned to normal values. [Kiersnowska, Kiersnowska2]

In other experiments with rabbits, *V. minor* caused a drop in the numbers of red blood cells, granulocytes and lymphocytes in the peripheral blood, and after longer administration also in the percentages of lymphocytes in bone marrow. [Kiersnowska, Kiersnowska2]

A couple of such experiments were carried out with rabbits (weighting 4-4.80 kg in one experiment) treated with 10 g *V. minor* per day over 42 or 78 days. This corresponds to 2.1-2.5 g/kg dried herb [Kiersnowska, Kiersnowska2]. Therefore, the herb dosage was significantly greater than the dosage used for humans and the period of administration quite long.

Contraindicated in case of hypotension, pregnancy, breastfeeding [Duke, Rossi]. Brain tumors and diseases involving an increase in intracranial pressure are also given as contraindications [Weiss, Wood].

Use with care in case of constipation (due to astringency), leucytopenia and/or lymphocytopenia.

Homeopathy

V. major have not been subject to significant homeopathic proving. *V. minor*, instead, is known for some peculiar symptoms.

³ A report from France describes the case of a 71 years old lady which ate “une salade avec 8 fleurs et feuilles de *Vinca minor* avec des asperges et de la vinaigrette”, reporting afterward a strong facial flushing which lasted a few hours, together with a systolic pressure of 170 which anyhow was usual for the last few days before the event (she suffered from high blood pressure treated with irbesartan). [Von Fabeck]

Vinca major

Generals

Paralysis, after intermittent fever. [Vermeulen]

Mind

Nightmares, hysteric and other fits. [Scholten]

Abusive, < evening. [Scholten, Vermeulen]

Body

General: haemorrhages. [Scholten]

Rectum: diarrhoea, bleeding piles. [Scholten]

Female: menorrhagia, heavy menses [Scholten]; excessive profuse menses, flowing like a stream, with great debility. Passive uterine haemorrhage from fibroid tumours [Vermeulen].

Skin: wounds. [Scholten]

Vinca minor

Vinca minor - Vinc.

The homeopathic remedies are prepared with the tincture of whole fresh plant. [Clarke]

Mind

Tremulousness [Clarke, Murphy, Phatak, Vermeulen, Vermeulen2]:

- Trembling sensation, especially in upper limbs, and tendency to be startled, especially during mental exertion. [Clarke, Murphy, Phatak, Vermeulen, Vermeulen2].
- Tremulousness in all the blood-vessels. [Clarke, Murphy, Vermeulen]

Anger [Clarke, Vermeulen, Vermeulen2]:

- Quick anger, quarrelsome; repentance soon afterwards. [Vermeulen, Vermeulen2]
- The nose becomes red from the slightest cause; when the least bit angry. [Clarke, Vermeulen]

Dream of being threatened and cursed by a patient one has treated unsuccessfully. [Vermeulen]

General

Weakness [Boericke, Clarke, Murphy, Phatak, Scholten, Vermeulen, Vermeulen2]:

- Weakness and prostration. *Weakness as if he would die.* [Clarke, Murphy, Phatak, Scholten, Vermeulen]
- The stool caused exhaustion. [Clarke, Murphy]
- Great debility accompanied the uterine haemorrhage. [Boericke, Clarke, Murphy, Phatak, Scholten, Vermeulen, Vermeulen2]
- Excessive weakness, faintness, and chilliness during menses. [Vermeulen]
- Due to leucorrhoea. [Vermeulen2]

Hemorrhages [Boericke, Clarke, Hansen, Murphy, Scholten, Vermeulen, Vermeulen2]:

- Frequent nosebleed. [Clarke, Murphy]
- Uterus. [Boericke, Clarke, Scholten, Vermeulen, Vermeulen2]
- From nose, lungs, bowels, vagina. [Hansen]

Soreness:

- Great sensitiveness of skin, with redness and soreness from slight rubbing. [Boericke, Clarke, Scholten, Vermeulen2]
- Nails sensitive to pressure, as if inflamed. [Vermeulen]
- Stomach sore to touch or pressure of clothing. [Clarke, Vermeulen2]
- Haemorrhoids constantly sore, smarting after stool. [Clarke, Vermeulen2]
- Tearing pain in vertex. [Boericke, Scholten].
- Sore spots on the scalp. [Clarke]

Inclination to stretch [Clarke]; inclination to stretch the limbs [Vermeulen].

Hunger alternates with loss of appetite before hunger has been satisfied. No thirst. [Murphy, Vermeulen]

Dryness of mucous membranes: nose, tongue, nasopharynx, throat. [Vermeulen]

Aversion: drinks, no thirst; food, loss of appetite. [Scholten]

Food: liquids (especially beer) causes empty eructations; coffee causes nausea [Murphy, Scholten, Vermeulen, Vermeulen2]. Abdominal colic and diarrhoea from sour things, during menses [Vermeulen].

Physical: < stooping; < walking [Clarke, Murphy, Phatak, Scholten]; < reading [Clarke, Murphy, Scholten]; < moving; < swallowing [Murphy, Phatak, Scholten]; < menopause [Scholten]; < in open air [Murphy, Scholten]; > moving in open air [Clarke, Vermeulen]; < drinking [Murphy, Scholten]; < anger [Murphy, Phatak]. Toothache > by warmth of bed [Clarke, Murphy].

Laterality: Left side most affected. [Clarke, Murphy, Vermeulen2]

Sensations

As if he would die from weakness. [Clarke, Murphy, Scholten, Vermeulen]

Trembling in blood vessels. [Clarke, Vermeulen]

Feeling of emptiness in various parts of the body [Clarke, Murphy, Scholten, Vermeulen]:

- Stomach as if empty. [Clarke, Murphy, Scholten, Vermeulen]
- Chest as if empty [Clarke, Murphy, Vermeulen], & pressure on sternum [Murphy, Vermeulen].
- Throat as if hollow. [Vermeulen]

Hammer striking from within outwards in vertex. [Clarke, Murphy, Vermeulen]

Objects as if turning, during dizziness. [Vermeulen]

Cold wind in ears [Clarke, Murphy]. Cold wind blowing out of ears, especially left [Vermeulen].

Crawling insects or spider webs on face. [Vermeulen]

Throat as if so much extended in length that food cannot reach oesophagus. [Vermeulen]

Fine layer of dust in throat and larynx, on waking in morning. [Vermeulen]

Something sticking low down in oesophagus [Clarke, Murphy, Vermeulen], must swallow [Vermeulen].

Weight on nape of neck [Vermeulen], on cervical muscles [Clarke, Murphy].

Hips as if paralysed. [Vermeulen]

Head

Whirling vertigo [Boericke, Murphy, Scholten, Vermeulen]; with flickering before eyes [Boericke, Murphy]; with blackness and flames before eyes [Vermeulen]. Objects as if turning, during dizziness [Vermeulen].

Tearing pain in vertex, with ringing and whistling in the ears. [Boericke, Murphy, Scholten]

Sensation as a hammer striking from within outwards in vertex. [Clarke, Murphy, Vermeulen]

Spots on scalp, oozing foul moisture, matting hair together [Boericke, Hansen, Murphy, Phatak, Scholten, Vermeulen]. Crusta lactea [Clarke, Hansen, Murphy]. Favus [Clarke, Murphy]. Plica polonica [Boericke, Clarke, Hansen, Murphy, Phatak, Reckeweg, Scholten]:

- Liter.: *“The most characteristic effect is on the scalp, where it produces a condition having many features of crusta lactea, favus, and plica polonica.”* [Clarke]
- Liter.: *“Eczema, matting the hair together from formation of crusts over the discharge.”* [Hansen]

Corrosive itching of scalp [Boericke, Murphy, Phatak, Vermeulen]. Irresistible desire to scratch [Boericke, Murphy]. Great heat, must scratch, burning after scratching [Vermeulen].

Sore spots on the scalp. [Clarke]

Bald spots, alopecia [Boericke, Hansen, Murphy, Phatak, Scholten, Vermeulen2]:

- Bald spots sometimes covered with short woolly hair [Hansen, Murphy, Phatak, Vermeulen2]; hair falls out and is replaced by gray hair [Murphy, Phatak]; hair grey after eczema [Scholten].
- & Great itching of the scalp. [Vermeulen2]

Ears

Ringling, whistling. [Boericke, Murphy, Scholten]

Feeling of cold wind in ears or blowing out of ears [Clarke, Murphy, Vermeulen], especially the left [Murphy, Vermeulen].

Nose

Tip gets red easily [Boericke, Murphy, Scholten]. The nose becomes red from the slightest cause; when the least bit angry [Clarke, Murphy, Phatak, Vermeulen].

Sores in nose. [Boericke, Murphy, Phatak, Scholten]

Moist eruption on septum [Boericke, Scholten]. Scabby eruptions about the nose and on the septum [Clarke].

Stoppage of one nostril. [Boericke, Scholten]

Frequent nose-bleed. [Clarke, Murphy, Phatak]

Heat and dryness in nose extending to frontal sinuses. [Vermeulen]

Mouth

Toothache > warmth of bed. [Clarke, Murphy]

Face

Acne. [Clarke, Murphy]

Seborrhea upper lip and base of nose. [Scholten]

Throat

Difficult swallowing. [Boericke, Murphy, Scholten]

Ulcers. [Boericke, Scholten]

Frequent hawking. [Boericke, Murphy, Scholten]

Diphtheria [Boericke, Hansen, Murphy, Scholten]. Recommended in diphtheria [Hansen].

Cutting sensation in lower oesophagus [Clarke, Murphy, Phatak, Scholten]; while swallowing food, continuing after [Clarke]; which provokes swallowing [Murphy, Phatak].

Chest

Chest as if empty [Clarke, Murphy, Vermeulen], with feeling of pressure on sternum [Murphy, Vermeulen].

Pains in chest with sticking and dyspnea. [Murphy]

Stitching in sternum. [Murphy]

Stomach

An empty, all-gone sensation [Clarke, Murphy, Scholten], > by eating [Clarke].

Stomach sore to touch or pressure of clothing. [Clarke, Murphy]

Abdomen full, tense but painless. [Murphy]

Griping. [Murphy]

Rumbling and gurgling with passage of much offensive flatus. [Murphy]

Empty eructations from beer and other beverages. [Murphy, Scholten, Vermeulen, Vermeulen2]

Nausea from coffee. [Murphy, Scholten, Vermeulen, Vermeulen2]

Abdominal colic and diarrhoea from sour things, during menses. [Vermeulen]

Violent, bitter, copious vomiting of yellowish-green liquid. [Murphy]

Kidneys

Diminished secretion of urine. [Murphy]

Urine pale yellow. [Murphy]

Stool, rectum & anus

Constipation from induration of faeces. [Clarke]

Diarrhea & sense of weakness in hypogastrium, and nausea. [Vermeulen]

Urging to stool. Stool first hard, then soft. [Murphy]

Haemorrhoids constantly sore, smarting after stool. [Clarke, Murphy]

Distension of abdomen after stool. [Clarke, Murphy]

Stool caused exhaustion [Clarke, Murphy], with burning in anus [Murphy].

Back

Painful tension and stiffness of cervical muscles with an illusive sensation as if a weight were lying on them. [Clarke, Murphy, Vermeulen]

Female

Menses profuse (menorrhagia), *flowing continuously like a stream, with extreme weakness* [Boericke, Clarke, Murphy, Phatak, Scholten, Vermeulen, Vermeulen2], faintness, and chilliness [Vermeulen]; blood dark red [Clarke, Murphy, Vermeulen2].

Passive uterine haemorrhages. [Boericke, Clarke, Murphy, Scholten]

Menometrorrhagia at climacteric. [Boericke, Hansen, Murphy, Phatak, Scholten]

Bleeding fibroids. [Boericke, Hansen, Murphy, Phatak, Scholten]

Limbs

Right hand cold, left one warm. [Vermeulen]

Inclination to stretch limbs. [Murphy, Vermeulen]

Cramp-like drawing in feet and toes. [Murphy]

Skin

Eczema [Boericke, Hansen, Murphy, Phatak, Scholten, Vermeulen2]:

- Eczema of head and face [Boericke, Murphy, Scholten, Vermeulen2], especially pustulous [Hansen].
- Eczema, matting the hair together from formation of crusts over the discharge (see *Head*). [Hansen]
- Weeping eczema intermingled with foul, thick crusts. [Murphy, Phatak]
- Corrosive itching [Boericke, Clarke, Murphy, Scholten]; must scratch [Clarke, Scholten]; moist spots, and burning in ulcers [Clarke]; pustules, itching, burning, and offensive odor [Boericke, Hansen, Murphy, Scholten].

Great sensitiveness of skin [Clarke, Murphy, Phatak, Scholten]; with redness or soreness even from slight irritation [Boericke, Clarke, Murphy, Scholten] or slight rubbing [Phatak]; with redness and excoriation from slight rubbing [Vermeulen].

Nails sensitive to pressure, as if inflamed. [Vermeulen]

Sleep

Frequent yawning. [Clarke, Murphy]

Sleeplessness and restlessness at night. [Clarke, Murphy]

Lascivious dreams. [Clarke, Murphy]

Fever

Sudden paroxysms of shivering. [Clarke]

Heat with firm, hard pulse. [Clarke].

Great warmth in scalp with prickling. [Clarke]

Heat of cheeks with redness. [Clarke].

Tremor in every blood-vessel. [Clarke]

NOTES

Notes on humors

According to the Hippocratic-Galenic medicine, four humors rule the human body:

- *Bile* (or *Yellow Bile*), corresponding to the Fire element, responsible for all the caloric activities of the human body, both in a physiological sense (e.g., body heat) and in a pathological sense (fever, inflammation, etc.);
- *Blood*, corresponding to the Air element and to the physical blood;
- *Phlegm* (also called *Pituita* or *Lymph*), corresponding to the Water element, responsible for everything that is fluid in the body (body fluids, lymph, blood plasma, synovial fluid, cerebrospinal fluid, etc.)⁴;
- *Melancholia* (also called *Black Bile*), corresponding to the Earth element, responsible for everything that is hard and structured (bones, teeth, but also growths, polyps, stones, tumors, etc.).

Heat and body fluids are governed by Yellow Bile and Phlegm respectively. When there are no further specifications, the terms “heat” and “fluids” can be used, in this text, to indicate the corresponding humor.

The functioning of the whole body is governed by the mixing (*crasia*) of such humors: if the ratio between the humors is proper (we speak of *eucrasia*), the body functions at its best and the health is guaranteed; if they are blended improperly (we speak of *discrasia*), illness results.

A humor is defined *correct* when both its “quantity” and its “quality” are proper; when it prevails over the others, generating dyscrasia, it is said that it is *superabundant*, and when its quality is not appropriate it is said that it is *corrupt*. We say in general that a humor is *perverse* when it is overabundant or corrupt. In this text, in order to facilitate comparisons between different systems of medicine, we resort to an extension with respect to the classical conception and define a humor as “perverse”:

- when its “quantity” is not optimal, that is, it is excessive (superabundant humor) or deficient (deficient humor) with respect to the condition of eucrasia (the classical theory allows only excess; deficiency is due to the prevalence of another humor with opposite qualities), or
- when its “quality” is different from the physiologically appropriate one (corrupt humor)⁵.

An excess of heat in the body can overheat and “cook” the humors, altering their characteristics. Phlegm thickens and becomes more viscous, giving rise to the so-called *thickened Phlegm*. If the excess heat is important or lasts for a long time, all humors can end up “burning” (in

⁴ In this sense, it is conceptually different from the *Phlegm* of Chinese medicine, which corresponds specifically to the *thickened Phlegm* of humoral medicine when it is located in the upper part of the organism.

⁵ Melancholia, for example, can be in excess with respect to the physiological condition of eucrasia (generating excessive structures) or in deficit (generating deficient constructions), but it can also be generated by the combustion of humors by heat (see below); in the latter case, it is always perverse (therefore it is perverse in quality rather than in quantity). In classical humoral medicine these three conditions are usually not so sharply distinguished from each other.

this case we call them *adust humors*). When burned, humors always produce Melancholia. Unani-Tibb medicine provides four types of perverse melancholia produced by the combustion of humors: *malankholia damvi*, produced by the combustion of Blood; *malankholia safravi*, produced by the combustion of Yellow Bile; *malankholia balghami*, produced by the combustion of Phlegm (generally due to fermentation) and *malankholia saudawi*, produced by the combustion of “correct” Melancholia.

Phlegm is cold in the first degree and damp in the second and is a mobile and flowing humor. When coldness becomes excessive, however, the Phlegm can thicken and become viscous (cold indeed makes viscous), producing once again *thickened Phlegm*.

Phlegm itself, when it accumulates and stagnates for any reason (for example due to a lack of heat or an excess of Tension, see below), generates, by “compression”, secondary heat that can condense the humor and make it viscous.

Furthermore, in nature stagnant dampness favors fermentation and putrefactive processes, especially when there is concomitant heat. Also in the human body an accumulation or stagnation of Phlegm may cause the onset of fermentation or putrefaction (phenomena that today’s medicine generically indicates as *infections*), which are certainly supported by the natural heat of the body and by any secondary heat generated by compression of the Phlegm. Moreover, the fermentation and putrefaction generate further secondary heat⁶. All these phenomena are characterized by the coexistence of perverse dampness and heat, even if, to be more precise, they should be described as due to the presence of pathological dampness associated with a certain degree of perverse heat (it is therefore more correct to think of them as due to “heated” humidity rather than moist heat). From a clinical point of view, the disorders characterized by this humoral picture include the phenomena known as *putrefaction*⁷ which are manifested by the emission or collection of purulent material, often even hardened (e.g., abscesses)⁸.

The conditions described so far (thickened phlegm, adust humors, putrefaction) are perverse not due to an incorrect quantity of the humors, but because of their “bad” quality.

Tension

In this text, for the exclusive purpose of simplifying any comparisons between different systems of medicine (for example, Chinese and humoral), we add the pseudo-humor *Tension*⁹, which is responsible for the “functionality” of the whole body or its parts (e.g., the organs). In this sense, it corresponds to the *Qi* of Chinese medicine but also to other concepts, such as that of the *Four Virtues* (attractive, retentive, alterative and expulsive) of organs according to Galen (see for example [Giannelli]) and it can also be related to the *vasoconstriction* and *vasorelaxation* conditions of Physiomedicalism and to Matthew Wood’s *Constriction* and *Relaxation* tissue states [Wood].

Tension, defined as a *pseudo-humor* because it is not contemplated by the classical humoral theory, can be thought of as formally derived from Fire to which a sort of “constraint”,

6 The fermentation and putrefaction processes are generally exothermic or generate a “hot” response from the human body..

7 Corresponding to the *toxic heat* of Chinese medicine. This condition also includes diseases characterized by macular or maculopapular eruptions (e.g., exanthematous diseases).

8 The conditions known as *Dampness/Heat* in Chinese medicine (which include, for example, problems often related to the urinary tract or gallbladder, some cases of jaundice, etc.) also fall within this picture.

9 Name borrowed from Matthew Wood’s tissue states model [Wood].

“limitation”, or “obstacle” has been applied. Like Fire, in fact, it is a form of “energy”, mobile in itself and activating; but whereas Fire tends to move only upwards and centrifugally, thus expanding indefinitely, the movement of Tension is more “structured” and so to speak “oriented” towards specific, defined forms and modalities. We can therefore see it as a kind of Fire to which a structuration (element of “terrestrial” nature) has been applied.

We can resort to an image taken from everyday life as an example. If we pour water on the fire, the latter goes out and the water disperses or evaporates. If we place a hard (i.e., cold and dry) element above the fire (for example, a terracotta or metal container) which prevents the water to directly “mix” with the fire, we are able to let the water heat up without dispersing, and to use it warm for specific purposes (for example, to cook food). By applying a cold and dry “obstacle” (the container) to the fire, we “functionalize” the heat that otherwise would disperse or make the water disperse or evaporate.

Tension can therefore be described, in a humoral sense, as derived from a sort of “functionalization” of Fire by a factor (a principle rather than a material cause) of a cold and dry nature. For this reason Tension is hot and dry, with a lower degree of heat than Fire (because of the cooling due to functionalization).

Even Tension can be correct or perverse and, in the latter case, it can be perverse both in quantity (excess or deficit of Tension) and in quality (think for example of the *Qi ni*, or *counterflow Qi*, of Chinese medicine). Given the correspondence, described above, of Tension with Qi, the various manifestations of perverse Tension will typically have a more or less specific correspondence in Chinese medicine (for example, “Tension deficiency” corresponds to “Qi deficiency”). In general, Tension imbalances correspond to Qi imbalances and/or to “Wind” (intended as a pathogenic manifestation).

An imbalance in Tension can also affect other humors, potentially making them perverse. For example, an excess or a stasis (stagnation) of Tension can prevent the body fluids from being moved correctly, generating stagnation of Phlegm and/or Blood; Tension stagnation can generate “compression” which in turn can produce heat (Chinese medicine speaks, for example, of “implosion of stagnant Qi” which generates Fire, understood here not as the element but as a specific manifestation of heat).

REFERENCES

[AHPA]	American Herbal Products Association, <i>“Botanical Safety Handbook”</i> , 2.nd edition, Crc Press (2013)
[Angelini]	Angelo Angelini, <i>“Il Serto di Iside – Quaderni di Erboristeria Alchimica”</i> , 3.a ed., vol. I, Ed. Kemi (2005)
[Atzei]	Aldo Domenico Atzei, <i>“Le piante nella tradizione popolare della Sardegna”</i> , 3.a ed., Carlo Delfino Editore, Sassari (2017)
[Bahadori]	Fatemeh Bahadori et al., <i>“Indole Alkaloids from Vinca major and V. minor Growing in Turkey”</i> , Natural Product Communications 2012, Vol. 7, No. 6, pp. 731 – 734
[Boericke]	William Boericke, <i>“Homœopathic Materia Medica”</i>
[Cheng]	Gui-Guang Cheng et al., <i>“Indole alkaloids from cultivated Vinca major”</i> , Tetrahedron 70 (2014) 8723e8729
[Ciorîță]	Alexandra Ciorîță et al., <i>“The Phytochemical Analysis of Vinca L. Species Leaf Extracts Is Correlated with the Antioxidant, Antibacterial, and Antitumor Effects”</i> , Molecules 2021, 26(10), 3040; DOI: 10.3390/molecules26103040
[Clarke]	John Henry Clarke, <i>“Materia Medica”</i> (1902)
[Culpeper]	Nicholas Culpeper, <i>“The Complete Herbal”</i> (1653)
[Duke]	James A. Duke, <i>“Handbook of Medicinal Herbs”</i> , 2.nd ed., CRC Press (2002)
[Duraffourd-Lapraz]	Christian Duraffourd et Jean-Claude Lapraz, <i>“Traité de phytothérapie clinique”</i> , Masson, Paris (2002)
[Durante]	Castore Durante, <i>“Herbario novo”</i> , Venezia (1667)
[EMA]	Committee for Veterinary Medicinal Products; Vincamine Summary Report. EMA/MRL/587/99. European Agency for the Evaluation of Medicinal Products (Veterinary Medicines Evaluation Unit). London (1999)
[Giannelli]	Luigi Giannelli, <i>“Medicina Tradizionale Mediterranea”</i> , Ed. Tecniche Nuove (2006)
[Grieve]	M. Grieve, <i>“A Modern Herbal”</i> (1931)
[Farahanikia]	Behnaz Farahanikia et al., <i>“Phytochemical Investigation of Vinca minor Cultivated in Iran”</i> , ServicesIranian Journal of Pharmaceutical Research (2011), 10 (4): 777-785
[Hansen]	Oscar Hansen, <i>“Textbook of Materia Medica & Therapeutics of Rare Homeopathic Remedies”</i> , The Homoeopathic Publishing Company, London (1899)
[Holmes]	Peter Holmes, <i>“The Energetics of Western Herbs”</i> , 4.th ed., Snow Lotus Press, Cotati (2007)
[Karabaev]	Sh. Sh. Karabaev et al., <i>“Isolation of Vincamine from Vinca minor”</i> , Chem. Nat. Compd., 1972, 8(5):674
[Kiersnowska]	Beata Kiersnowska et a., <i>“The Influence of Herbs of Vinca Minor L. on the Leukocytic System and Electrophoretic Composition of Serum Proteins in Healthy Rabbits”</i> , Archivum Immunologiae et Therapiae Experimentalis, 1972, 20(3), 343-351
[Kiersnowska2]	B. Kiersnowska et al., <i>“Studies on the erythrocytic system and 59FE iron turnover in healthy rabbits treated with herbs of Vinca minor L”</i> , Arch Immunol Ther Exp 1973;21(4):637-44
[Malikov]	V. M. Malikov & S. Yu. Yunusov, <i>“Vinca alkaloids”</i> , Chemistry of Natural Compounds, 13, pp. 497–512 (1977)
[Mattioli]	Pietro Andrea Mattioli, <i>“Discorsi di M. Pietro Andrea Mattioli sanese, medico cesareo, ne’ sei libri di Pedacio Dioscorides Anazarbeo della materia Medicinale”</i> (1746)

[Murphy]	Robin Murphy, " <i>Nature's Materia Medica</i> ", 4.th ed., Lotus Health Institute, (2020)
[PDR]	Joerg Gruenwald et al. (ed.), " <i>PDR for Herbal Medicines</i> " 2.nd edition, Thomson PDR ed. (2000)
[Peroni]	Gabriele Peroni, " <i>Driope – ovvero il patto tra l'uomo e la natura</i> ", Nuova Ipsa (2012)
[Phatak]	S. R. Phatak, " <i>Materia Medica of Homoeopathic Medicines</i> ", 2.nd ed., B. Jain Publishers (P) Ltd. (1999)
[Proksa]	Bohumil Proksa, et al. " <i>Vincarubine, a Novel Bisindole Alkaloid from Vinca Minor L.</i> ", Tetrahedron Letters, Vol. 27, No. 44, pp 5413-5416, 1986]
[Proksa2]	Bohumil Proksa et al., " <i>Relative Configuration and Cytotoxic Activity of Vincarubine: A Novel Bisindole Alkaloid from Vinca minor</i> ", Planta medica 1988
[Proksa3]	B. Proksa and E. Grossmann, " <i>High Performance Liquid Chromatographic Determination of Alkaloids from Vinca minor L.</i> ", Phytochemical Analysis, Vol. 2. 74-76 (1991)
[Proksa4]	B. Proksa et al., " <i>New Quaternary Alkaloids from Vinca minor</i> ", Planta Medica 55(1989)
[Reckeweg]	H. H. Reckeweg, " <i>Materia Medica Omeopatica</i> ", 3.a ed. italiana, GUNA Editore (2009)
[Tucci]	Alberto Tucci, De Leo, " <i>Erbe Officinali e Piante Medicinali</i> " (2014)
[Vachnadze]	V. Yu. Vachnadze et al., " <i>Chemical Composition and Pharmacological Activity of Alkaloids from the Common Periwinkle Cultured in Georgia</i> ", Pharmaceutical Chemistry Journal, Vol. 35, No. 5, 2001
[Vermeulen]	Frans Vermeulen, Linda Johnston, " <i>PLANTS - Homeopathic and Medicinal Uses from a Botanical Family Perspective</i> ", Saltire Books (2011)
[Vermeulen2]	Frans Vermeulen, " <i>Materia Medica Sinottica</i> ", 2° vol., Salus Infirmorum (2007); orig. " <i>Synoptic Materia Medica 2</i> ", 2.nd ed., Merlijin Publishers (1998)
[Von Fabeck]	Katharina Von Fabeck et al., " <i>Intoxication après ingestion d'une salade à base de pervenche française (Vinca minor)</i> ", Toxicologie Analytique et Clinique, 33 (3) Supplement, September 2021, Pages S44-S45
[Weiss]	Rudolf Fritz Weiss, " <i>Herbal Medicine</i> ", Classic Edition, George Thieme Verlag (2001) - orig.: " <i>Lerbuch der Phytotherapie</i> ", 6.th ed., Hippocrates VerlagGmbH, Stuttgart (1985)
[Wood]	Matthew Wood, " <i>The Earthwise Herbal – A Complete Guide to Old World Medicinal Plants</i> ", North Atlantic Books (2008)
[Zevin]	Igor Vilevich Zevin, " <i>A Russian Herbal</i> ", Healing Art Press (1997)