



POLYGONUM L. – GENERE

Order: Caryophyllales Juss. ex Bercht. & J.Presl (APG IV), Polygonales (Cronquist)

Family: *Polygonaceae* Juss.

Tribe: Polygoneae

POLYGONUM AVICULARE L.



Primary functionality: Saturn [Culpeper, Junius]

Secondary functionality:

Nature: Cold in the 2.nd degree (or beginning of the 3.rd) and rather dry [Mattioli]

Cold in the 1.st degree and dry in the 2.nd [Salmon]

Taste: Bland (because of mucilages), astringent (due to tannins), sweet, slightly aromatic (cumarins), slightly bitter and slightly saline.

Tropism: Intestine, bladder and kidneys, ANS (diaphoresis), epithelia (skin, mucous membranes, vascular epithelia), connective tissue (in particular tendons and ligaments), distal interphalangeal joints of the fingers.

*Humoral actions*¹: Resolves yellow bile excesses, phlegm (fluid or thickened)

excesses and mixed conditions (toxic heat, heat-dampness); resolves tension excesses (mainly in bladder, intestine, ANS); corrects perverted melancholy (lithontriptic) and supplements melancholy deficiency (vulnerary). It is also moistening.

Clinical actions: Abstersive, alexipharmic, anti-diabetic, anti-inflammatory, antispasmodic, astringent, cholagogue, depurative, diaphoretic, diuretic (uricosuric), emetic (seeds), emmenagogue, febrifuge (recurrent fevers), hemostatic, laxative (seeds), lithontriptic, nervine, styptic, vulnerary.

Used parts: Flowering or non-flowering aerial part (with or without roots), seeds

Description

Polygonum aviculare is generally ascribed to a complex formed by several species, which are considered by some authors as subspecies of *P. aviculare*.

Given the peculiar similarity of the species belonging to the complex, it is very likely that the ancient authors (mainly European ones) made no distinction between them and used them in a similar way. For example, in Italy, where the *P. aviculare* complex includes *P. aviculare* L. (= *P. aviculare* s. str.), *P. rurivagum* Jord. ex Boreau, and *P. arenastrum* Boreau, the Renaissance botanist Andrea Mattioli describes only the *male polygonus*, reporting that “*its flowers are now white, now red*”, without mentioning any other difference. For this reason it is plausible to believe that they were used in the same way, with similar therapeutic results.

Here we only deal with *P. aviculare* L. (= *P. aviculare* s. str.), but it is likely that the other species of the same complex have similar effects. The Italian Domenico Atzei also treats the three Italian species indistinctly from the therapeutic point of view [Atzei].

Obviously, differences between the species exist. For example, *P. aviculare* is particularly rich in silicon, more than *P. arenastrum* (according to [Hodson], *P. aviculare* contains an amount of elemental silicon almost three times greater than that contained in *P. arenastrum*).

Polygonum aviculare is an annual plant, very branched and with creeping, long and thin stems with many nodes: this feature has earned it the popular name of *knotweed* (*centinodia* in Italian). The popular name *sanguinaria* (or *sanguinalia*, from the Latin *sanguis*, “blood”) is linked to its anti-haemorrhagic abilities, and *swinegrass* reminds us that the plant is browsed by pigs.

Despite being little used today, *P. aviculare*, in addition to being an edible plant (leaves and young plants), has a great therapeutic value. In the past, in fact, it was considered a valid remedy for a large number of problems, so much so that in some areas of Italy it was called *centimorbia* (meaning “one hundred diseases”): “*The people by ancient tradition believe it to be specific for a large number of diseases, from which it had the name of centimorbia, that is, good for a hundred diseases.*” [Targioni-Tozzetti].

The main constituents are: flavonoids, tannins, mucilage, simple sugars, phenolcarboxylic acids, hydroxycoumarins, saponins, alkaloids (including the fat-soluble panicudin), sesquiterpenes, lignans, organic acids, essential oil (traces).

1 See the “Notes on humors” paragraph.

It is rather rich in silicon. According to some analyses, it contains about 1.97% by weight of total elemental silicon, of which 1.39% organic silicon, 0.11% mineral silicon in soluble form and 0.47% silicon in the form of insoluble silicates (data calculated with respect to the dry plant, see [Hodson, Kolesnikov])². This gives the knotgrass some important functional characteristics, including a certain purifying activity and the ability to strengthen the connective tissue.

Although not intense, the flavor of *P. aviculare* is complex: bland (due to mucilage), astringent (due to tannins), sweet, slightly aromatic (coumarins), slightly bitter and slightly saline.

Such complex flavor is indicative of tonic, demulcent, soothing, anti-inflammatory, consolidating properties and the ability to solve/expel phlegm (either fluid or thickened) and melancholy.

The plant has been described by Dioscorides, as reported by Mattioli (who calls it *male polygonus* or *sanguinaria*, in order to distinguish it from *female polygonus* or *female sanguinaria*): “*Its juice drunk has frigid and constricting virtues: it stagnates the spit of blood, and the body fluxes; it is good for the choleric, and for the distillations of urine, because it evidently makes people urinate. Drunk with wine, it heals snake bites. It is drunk in case of fevers, which are [not] continuous, an hour ahead of the beginning. Applied below it stagnates the fluxes of women. It is distilled in the ears, which leak, and in those which hurt. Cooked in wine, and added Honey to it, it heals the ulcers of the male members very well: the fronds are usefully plastered for the burning of the stomach, the spitting of blood, the corrosive ulcers, the shingles, the inflammations, the collections of putrid matter, and the fresh wounds.*” (Dioscorides, according to [Mattioli]).

Again Mattioli, quoting Galen, writes: “*The polygonus is somewhat constricting, and so truly there is of frigid wateriness in it, that it can be easily placed among those medicaments, which are frigid in the second order, or in the beginning of the third. And so for this reason it benefits, plastered outside, those who have too warm stomachs, as well as erysipelas, and hot phlegmons*”³. [Mattioli]

The therapeutic activities of the plant has been well summarized, in more recent times, by William Salmon: “*It is cooling, drying, and binding*” [Salmon]. This plant in fact, as we have seen, is capable of resolving inflammation, healing wounds, stopping flows of any type (blood, organic liquids, exudations, ...) and drying/eliminating excess fluids, but it is also able to moisten, break urinary stones and gallstones, calm spasms and “open the pores”.

According to Lyle, for instance: “*This herb is a mild, diffusive, stimulating and relaxing, antispasmodic nervine. In hot infusion it influences the circulation and is diaphoretic, quite stimulating to the capillaries and increasing the periodic flow, especially if a little Zingiber be added. Cold preparations are diuretic and relieve the aching back and bladder. For irritable coughs it is a good addition to Aralia, Inula and Prunus.*” [Lyle]

Targioni-Tozzetti writes: “*The whole plant, fresh or dry, is used by country people to make decoctions against coughs and light bronchitis, and as a diaphoretic in rheumatisms, and as an astringent in prolapses and hemorrhages. Levrat-Perrotton praises it a lot in concentrated decoction, against even stubborn diarrhea.*” [Targioni-Tozzetti]

² The maximum content of elemental silicon (i.e., expressed as an element and not as silica, silicates or silicic acid) in horsetail (*Equisetum arvense*) is slightly greater than 3% (see for example [Bye, EMASil, Labun]).

³ *Phlegmon*: an acute inflammation of the lax and adipose cellular tissues interposed between the various anatomical planes or around the various organs. They can be superficial (i.e. affect the subcutaneous tissue) or it can affect deeper tissues. According to the type of inflammation, suppurative phlegmons and necrotic (or gangrenous) phlegmons are distinguished.

Its ability to break down kidney and bladder stones is described by Clymer: *“its chief influence is on the bladder, and it has generally been used for the removal of stones from the bladder even after all other treatments had failed. It is not given to prevent the formation of stones, but to dissolve stones already formed. For this purpose is best combined with Shave Grass three or more times a day, either in infusion or in tincture.”* [Clymer]

More modern indications come from Serge Dewit and Jean-Claude Leunis: *“Due to the richness in tannin, knotgrass is known as an hemostatic and antidiarrheal. Rich in silicon, it is remineralizing. We use it in angor, cerebral arteritis, Raynaud’s disease and localized circulatory deficiencies. The plant is rich in flavonoids (avicularoside) and coumarin, It has antiviral properties and this is not strange given its richness in flavonoids. It has been shown that it stimulates γ interferon and that it activates the polynuclear cells, probably activating the IgG subclasses. This is a hypothesis to be studied. We use it with Rumex acetosella in the treatment of asthma. It can also be used as a therapeutic adjuvant for diabetes in which it reduces thirst. It is interesting as an adjunct in the treatment of gout as it increases the clearance of uric acid. [...] Its biological action covers the exudative, steatotic and amyloid phases.”* [Dewit-Leunis]

Modern research has shown, for *P. aviculare* or its extracts, some antimicrobial effect [Salama] and some interesting activity on atherosclerosis [Park], diabetes [Cai, Zhang], obesity [Sung], sperm damage from EMF exposure [Milan], liver fibrosis [Nan].

Some sources report that *P. aviculare* is traditionally used to treat hypertension, and a vasorelaxant activity of its extracts has been demonstrated *ex vivo* [Yin].

P. aviculare, known as *Bian Xu* (篇蓄) or Herba Polygoni Avicularis, is also used in traditional Chinese medicine, mainly to:

- drain Damp-Heat from the Urinary Bladder, promote urination and unblock painful urinary dysfunction; in this context, it is used in case of Damp-Heat Painful Urinary Dysfunction (*Lin Syndrome*) or Damp-Heat jaundice;
- to expel parasites and stops itching; specifically, for damp lesions with itch (including tinea) or for intestinal parasites such as tapeworm, hookworm and pinworm [AmDragon]

This herb is reputed most appropriate when Heat and Dampness are equally severe. [AmDragon]

Properties

Temperature and taste

In the Hippocratic-Galenic system *P. aviculare* is described as cold and dry in the second degree or in the beginning of the third degree:

- Liter.: *“It is cold, and dry in the second degree or rather in the beginning of the third.”* [Durante]
- Liter.: *“The polygonus is somewhat constricting, and so truly there is of frigid wateriness in it, that it can be easily placed among those medicaments, which are frigid in the second order, or in the beginning of the third.”* [Mattioli]

William Salmon describes the plant as *“cold in the first degree, and dry in the second”*. [Salmon]

In TCM it is described as Slightly Cold (or Cool or Neutral), as having a bitter taste, and as entering the Bladder meridian. [AmDragon]

According to Herzog, "*it has indeed some acidity in its taste*". [Herzog]

A personal proving with the fresh plant and the tincture has shown a delicate but complex flavor: bland (because of mucilage), astringent (due to tannins), sweet, slightly aromatic (cumarins), slightly bitter (this taste is more easily perceived in the mature leaves), and slightly saline.

Signature

The signature of the knotweed is mainly Saturnine (both according to Manfred Junius and to Culpeper [Culpeper, Junius]), reasonably due to its cold and dry nature and its cooling and consolidating activity. The exaltation of Saturn in Libra gives this plant the ability to act on the kidneys and regulate the hydrosaline control, and so to stimulate the degradation of stones and body "tartarous" matter.

Tissue phases

2 (reaction), 3 (deposition)⁴, 6 (disorganization) [Dewit-Leunis]

Actions and indications

Humoral actions

P. aviculare has a complex activity: it treats Yellow Bile excesses, Phlegm excesses (both of thin or thickened Phlegm) and mixed conditions (toxic heat, damp-heat); it resolves Tension excesses (mainly at the level of bladder, intestine, ANS⁵); it corrects the perverted melancholy (lithontriptic) and supplements deficient melancholy (vulnerary). It's also moistening⁶ ([Vogel]).

Tropism

P. aviculare has an elective tropism toward intestine, bladder and kidneys, ANS (diaphoresis), epithelia (skin, mucous membranes, vascular epithelia), connective tissue (specially tendons and ligaments), distal interphalangeal joints of the fingers.

Clinical actions

Abstersive, alexipharmic, anti-diabetic, anti-inflammatory, antispasmodic, astringent, cholagogue, depurative, diaphoretic, diuretic (uricosuric), emetic (seeds), emmenagogue, febrifuge (recurrent fevers), hemostatic, laxative (seeds), lithontriptic, nervine, styptic, vulnerary.

4 In the figure in the book by Dewit and Leunis, the deposition phase (steatosis) mentioned in the text is missing. Here it is added for completeness.

5 It is indeed diaphoretic.

6 The plant also contain mucilage.

Principal actions

Astringent, vulnerary, styptic, hemostatic, abstersive (internal and external use) [Culpeper, Dewit-Leunis, Duraffourd-Lapraz, Durante, Grieve, Herzog, Mattioli, Rafinesque, Salmon, Targioni-Tozzetti, Winston]

- Liter.: *“it stagnates the spits of blood, & the fluxes of the body.”* [Durante, Mattioli]
- Liter.: *“The leaves cooked in red wine, & drunk, tighten all the fluxes of the belly, the vomiting, the spits of the blood, & the superfluous menstruation.”* [Durante]

Anti-inflammatory [Culpeper, Durante, Lyle, Mattioli, Plinius, Salmon]:

- Liter.: *“[its juice] is good for the choleric”* (Dioscorides) [Durante, Mattioli]
- Liter.: *“The juice, or distilled water, is very valuable in extinguishing internal & external inflammations”* [Durante]
- Liter.: *“it relieves ear pains”* (external use) [Durante]
- Liter.: *“relieve the aching back and bladder”* (cold preparations) [Lyle]
- Liter.: *“cool and temper the heat of Blood, or of the Stomach”* [Salmon]

Diaphoretic (hot infusion) [Lyle, Targioni-Tozzetti]

Diuretic (preferably cold preparations); uricosuric [Culpeper, Duraffourd-Lapraz, Durante, Grieve, Cook, Lyle, Mattioli, Rafinesque, Salmon, Winston]

- Liter.: *“[its juice benefits] the distillation of urine, because it evidently makes us urinate”* (Dioscorides) [Durante, Mattioli]
- Liter.: *“It is interesting as an adjunct in the treatment of gout as it increases the clearance of uric acid”* [Dewit-Leunis]

Lithontriptic [Clymer, Durante, Jackson]

Blood purifier, depurative [Atzei, Duraffourd-Lapraz, Jackson]:

- Liter.: *“As a purifier of the blood, one tumbler of a weaker decoction is recommended to be taken every morning.”* [Jackson]

Febrifuge [Atzei, Durante, Herzog, Jackson, Mattioli, Porcher]:

- Liter.: *“Excellent febrifuge, used [...] a substitute for quinine.”* [Jackson]
- Liter.: *“And it was administered in the fever before the remission in two glasses of water in the tertian, and mainly in the quartan.”* [Plinius]

Laxative (seeds) [Grieve, Plinius]

- Liter.: *"The fruit is emetic and purgative."* [Grieve]

Emetic (seeds) [Grieve, Plinius]

Alexipharmic [Culpeper, Durante, Mattioli, Salmon]

- Liter.: *"Effectively expels venom, & stones, & kills body worms"* [Durante]
- Liter.: *"for those who are stung or bitten by Scorpions, Serpents, or other Venomous Creatures"* [Salmon]

Antispasmodic [Cook, Lyle, Salmon]:

- Liter.: *"It is a mild and quite diffusive relaxant and stimulant, antispasmodic in action"* [Cook] (simil. [Lyle])
- Liter.: *"eases all inward pains of the Bowels arising from heat, sharpness, and corruption of Humors, as the Colick, &c."* [Salmon]

Nervine [Duraffourd-Lapraz, Lyle]

- Sedative [Duraffourd-Lapraz]

Cholagogue [Winston]

Emmenagogue (hot infusion) [Cook, Lyle]

Anti-diabetic, hypoglycemicant [Cai, Dewit-Leunis, Duraffourd-Lapraz, Scholten, Zhang]

Specific indications

General

- *Back aching, extending to the bladder (or vice versa)* [Cook, Lyle, Scholten]
 - with sudden suppression of urine [Cook]
- *Fever (intermittent, malarial)* [Atzei, Boericke, Durante, Herzog, Jackson, Mattioli, Plinius, Porcher, Salmon, Scholten]
 - Liter.: *"given before the Fit of an Ague comes, whether Tertian or Quartan, it is said to determine it, and cure the same"* [Salmon]
 - Liter.: *"in material doses of tincture, found useful in phthisis pulmonalis and intermittent fever, and especially in arterio-sclerosis. Erythema."* [Boericke]

- Gout [AmDragon, Dewit-Leunis, Salmon]
- Rheumatism (aerial parts) [Atzei, Targioni-Tozzetti]; (seeds) [Plinius]
 - Liter.: *“The seeds solve the belly [,] more widely taken move the urine, restrict the rheumatism, which if not present, are not beneficial.”* [Plinius]
- Parasites [Durante]
 - Helminthiasis [AmDragon, Durante, Grieve, Vogel, Salmon]
 - Liter.: *“kills also Worms in Stomach or Belly”* [Salmon]
 - Trichomonas [Winston]
 - TCM: Damp lesions with itch including tinea [AmDragon]
- Faintness [Rafinesque]; fatigue, weakness [Scholten]
- Prolapsus [Rafinesque]

Metabolism

- Jaundice [Winston]; Damp-Heat jaundice (TCM) [AmDragon]
- Diabetes [Dewit-Leunis, Duraffourd-Lapraz, Scholten]
- Itching of hepatic nature [Atzei]

Respiratory system

- Cough, throat inflammations, pharyngitis [Cook, Lyle, Scholten, Targioni-Tozzetti]
 - Irritable coughs [Lyle]; tickling coughs [Cook, Scholten]; (cold infusion) [Cook]
 - Inflammatory changes to the oral and pharyngeal mucosa [CME]
- Bronchitis [Targioni-Tozzetti]
- Tuberculosis [Atzei, Boericke, Hansen, Herzog, Scholten]
 - Liter.: *“Recommended in phthisis pulmon. 5-10 drops ter of the mother tincture.”* [Hansen]
 - Liter.: *“a remedy in mucosity of the breast and incipient phthisis.”* [Herzog]
- Catarrh, common cold [CME, Herzog]
- Asthma (with *Rumex acetosella*) [Dewit-Leunis]

Gastrointestinal system

- *Diarrhea, chronic diarrhea, dysentery* [Atzei, Dewit-Leunis, Duraffourd-Lapraz, Durante, Grieve, Herzog, Jackson, Lyle, Mattioli, Porcher, Salmon, Scholten, Targioni-Tozzetti]; enterocolitis (whole plant decoction) [Atzei], as a bowel antiseptic [Atzei, Duraffourd-Lapraz]:
 - Liter.: “[*In chronic diarrhœa and dysentery*] as a concentrated decoction, it was efficient in several cases in which the usual remedies were of no avail.” [Herzog]
 - Liter.: “Excellent remedy for chronic diarrhœa (strong decoction).” [Jackson]
 - Liter.: “Dr. Levat Perroton, of Lyons, gives it as an excellent remedy for chronic diarrhœa, using a strong decoction for a month or more; he reports nine cases cured which had resisted other plans of treatment.” [Porcher]
 - Liter.: “in intestinal infections (decoction of fresh herb complete with root, or aqueous macerate of shredded dried herb [...])” [Atzei]
- Flatulent colic [Cook, Scholten]
- Vomiting [Durante]
- Stomach pain [Scholten]
- Gallstones [Atzei]
- Gastrointestinal ulcer [Atzei]

Cardio-circulatory system

- *Hemorrhages, hemoptysis, hematemesis* [Atzei, Culpeper, Durante, Grieve, Mattioli, Porcher, Rafinesque, Salmon, Targioni-Tozzetti]
- *Arteriosclerosis* [Boericke, Scholten]; (tincture) [Boericke]
- Angor⁷ [Dewit-Leunis]
- Cerebral arteritis, Raynaud’s disease and localized circulatory deficits [Dewit-Leunis]

Urinary system

- *Urinary (kidney and bladder) calculi, gravel* (aerial parts, seeds) [Atzei, Clymer, Culpeper, Durante, Grieve, Jackson]:
 - Liter.: “extraordinary power of curing stone and gravel disease” [Jackson]
 - Liter.: “Take a good, liberal handful and boil gently in six tumblers of water, till it is reduced to about four tumblers. The dose is one to two tumblers to be taken in the morning on an empty stomach. In bad cases it is given several times throughout the day, but diet must be strictly kept.” [Jackson]

⁷ Angina pectoris.

- Liter.: *“It has also diuretic properties, for which it has found employment in strangury and as an expellant of stone, the dose recommended in old herbals being 1 drachm of the herb, powdered in wine, taken twice a day.”* [Grieve]
- Liter.: *“powerfully expel the Stone, Gravel, Sand, Urine and other Tartarous Matter from the Reins, Ureters, and Bladder”* [Salmon]
- Strangury, dysuria [Cook, Culpeper, Durante, Grieve, Mattioli, Salmon]
 - *with aching to the back and bladder* [Cook]
- Urinary tract inflammations [AmDragon, Salmon, Winston]
 - Liter.: *“Knotgrass is a peculiar thing against [...] heat and sharpness of Urine”* [Salmon]
 - Urethritis [Winston]
 - Damp-Heat Painful Urinary Dysfunction (*Lin Syndrome*) [AmDragon]
- Dropsy [Rafinesque]

Rectum

- Hemorrhoids (internal use) [Grieve, Herzog]; (external use) [Atzei]
 - Liter.: *“useful in diarrhoea, bleeding piles and all haemorrhages”* [Grieve]

Sex organs

- Gonorrhoea [Salmon]
- Protects sperm from damage due to EMF exposure [Milan]

MALE

- Spermatorrhea [Salmon]

FEMALE

- Menometrorrhagia [Culpeper, Durante, Mattioli]
- Amenorrhoea, dismenorrhoea [Lyle, Scholten]
- Injured womb [Scholten]
- Leucorrhoea [Salmon]; (internal and external use) [Atzei]

Mouth

- Stomatitis [Atzei, Scholten]

Eyes

- Eye floaters (ITA: Miodesopsie) [Durante]:
 - Liter.: *"The water distilled in the sun, sharpens eyesight, & resolves the clouds of the eyes"* (external use)[Durante]
- Sore eyes [Plinius]
 - Liter.: *"And the juice is instilled in the ears, which are rotten, & per se to the pain of the eyes."* [Plinius]

Ears

- Earache, ear infections, ear ulcers [Culpeper, Durante, Mattioli, Vogel. Salmon]
 - Liter.: *"[its juice] is distilled in the ears, which secrete, and in those which hurt."* (Dioscorides) [Mattioli]
 - Liter.: *"In addition to this, it consolidates the wounds, and confers to all the ulcers of the ears, in which it dries up the rottenness, and dries them"* [Mattioli]

Skin

- Ulcers, wounds, sores; also running and old (*"filthy"*) (external use) [Culpeper, Durante, Grieve, Herzog, Mattioli, Rafinesque]
 - Liter.: *"Externally as a moderately astringent remedy in wounds and ulcers"* [Herzog]
 - Liter.: *"it helps the inflammations, & ulcers of the genital parts, especially cooked in the wine the fronds, & added honey"* (external use) [Durante]
 - Liter.: *"it confers not only to the corrosive, and malignant ulcers, but equally to all the others"* [Mattioli]
 - Liter.: *"excellent remedy for sores"* (fresh juice made into an ointment) [Grieve]
 - Liter.: *"cures Wounds, and cleanses and heals old filthy Ulcers, &c"* [Salmon]
- Erysipelas [Mattioli]
- Shingles (external use) [Durante, Mattioli, Plinius, Salmon]
 - Liter.: *"stop the progress of Anthonies-Fire, or any other breakings forth of heat, and gives ease in all hot Swellings and Apostems"* [Salmon]

- Erythema [Boericke, Scholten]
- Scleroderma [Scholten]

Other

- Tendon trauma, sprains, bone fractures [Charrié, Culpeper, Salmon]
 - Liter.: *“it strengthens weak Joints, comfort the Nerves and Tendons, and is prevalent against the Gout, being duly and rightly applied Morning and Evening”* (balsam) [Salmon]
 - Liter.: *“[...] I gladly associate the mother tincture of knotweed (Polygonum aviculare) which will support the pancreatic digestive dynamics (allowing the assimilation of the elements necessary for the healing of the ligaments)”* [Charrié]
 - Liter.: *“In case of fracture [...] To help the healing of the bone, take horsetail, and/or comfrey (Symphytum officinale) and/or knotweed (Polygonum aviculare)”* [Charrié]
- Ruptures [Culpeper]

Used parts and collection

The aerial part of *P. aviculare* are collected before or, better, during flowering. The anthesis is very long and can begin as early as May and continue up to October. The root may or may not be harvested. The seeds must be collected when ripe.

Preparation and dosage

P. aviculare can be used both in infusion/decoction and in tincture.

Contraindications and side effects

P. aviculare is a plant generally considered safe and non-toxic.

According to TCM, it is contraindicated for those with difficult urination due to abdominal weakness. Overdose can cause *Qi* Deficiency. It may cause dermatitis or gastrointestinal disturbance. Over consumption can cause depletion of *Jing*. [AmDragon]

Homeopathy

P. aviculare has not been thoroughly proven so far. The following is from Jan Scholten and Boericke [Boericke, Scholten]:

Mind

Uncontrollable sexual lust, directed to less desirable relations, feeling guilty about it.

Body

General: diabetes.

Energy: fatigue, weakness.

Fever: intermittent, malarial.

Mouth: stomatitis.

Throat: pharyngitis.

Lungs: tuberculosis, tickling coughs.

Heart: arteriosclerosis.

Stomach: pain.

Abdomen: flatulent colic.

Rectum: diarrhoea.

Urinary: urination frequent, profuse, painful, dribbling; pain, cutting, neck of bladder, < urinating; urine dark, red, deposits, mucus, phosphates; clear, light, straw coloured; kidney inflammation, sudden suppression of urine.

Female: painful menstruation; injured womb.

Back: aching, extending bladder.

Limbs: spasms.

Skin: erythema; scleroderma.

Denis Demarque also adds:

Fingers: rheumatic pains of the *distal interphalangeal joints of the fingers*, in the presence of deformations; arthritis of the distal fingers of the fingers (Heberden's nodules⁸). [Demarque]

⁸ Heberden's nodules are usually round, solid, swollen osteophytes (or bone spurs) that form on the distal interphalangeal joints. Nodules on the proximal joints are also called Buschar's nodules.

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.)⁹;
- *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)¹⁰.

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

⁹ 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.

¹⁰ 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 heat¹¹. 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*¹² which are manifested by the emission or collection of purulent material, often even hardened (e.g., abscesses)¹³.

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*¹⁴, 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”,

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

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

13 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.

14 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).

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