Polyporus & Dianthus Formula Zhu Ling Qu Mai Tang

Polyporus and Dianthus Formula (Zhu Ling Qu Mai Tang) is a modified version of Zhu Ling Tang, which first appeared in the writings of Zhang Zhong-Jing during the latter part of the Eastern Han Dynasty (25-220 A.D.). Zhang discusses the formula in Essentials from the Golden Cabinet (Jin Gui Yao Lue), as well as On Cold Damage (Shang Han Lun). The modifications employed in the formulation currently under discussion emphasize the formula's ability to mobilize pathogenic water and drain heat from the lower warmer, as well as drain heat from the heart-small intestine complex. Specific functions of each substance in the formula are examined below in the sections Synergy of Ingredients and Formula Discussion.

GENERAL SIGNS/SYMPTOMS

Inhibited urination and/or urinary discomfort are the chief signs/symptoms indicating prescription of **Polyporus and Dianthus Formula** (*Zhu Ling Qu Mai Tang*). Accompanying heat signs in the lower warmer or the heart/small intestine complex are common and include fever with little or no sweating, irritability, rapid pulse, red tongue body, insomnia, and concentrated (dark/pungent) urine. The pattern can progress to disturb normal qi flow in the middle and upper warmers. If this occurs, the signs include nausea, irritability, cough, and thirst with a desire to drink. The formula is also highly effective for eliminating damp-heat problems in the intestines and is today applied also to damp-heat in the curious organs of the lower warmer, namely, the reproductive organs. (See **General Indications** below.)

TRADITIONAL APPLICATIONS

- 1. Heat and water binding in the lower warmer.
- concentrated urine
- inhibited urination
- thirst with desire to drink
- diarrhea

- 2. External cold invading the yangming or shaoyin channels, sinking into lower warmer, and transforming into heat.
- 3. Constitutional yin deficiency allowing the invasion of heat into the lower warmer.
- 4. Heart heat transferring to the small intestine.
- irritability
- insomnia
- thirst with desire to drink
- red cheeks
- mouth sores
- inhibited urination

INGREDIENTS

PINYIN	Latin	English	PERCENT OF FORMULA
Dan Zhu Ye (deputy)	Lophatheri (herba)	Lophatherum	16%
<i>Qu Mai</i> (chief)	Dianthi (herba)	Chinese pink, Dianthus	16%
Fu Ling (deputy)	Poria (sclerotium)	Poria, Hoelen, Tuckahoe	12%
Zhu Ling (chief)	Polyporus (sclerotium)	Polyporus sclerotium	10%
Ze Xie (deputy)	Alismatis (rhizoma)	Asian Water Plantain, Alisma	10%
Zhi Mu (assistant)	Anemarrhenae (rhizoma)	Anemarrhena rhizome	10%
Chuan Xin Lian (assistant)	Andrographitis (herba)	Andrographis	10%
Huang Bai (assistant)	Phellodendri (cortex)	Phellodendron bark	10%
Shi Wei (assistant)	Pyrrosiae (folium)	Pyrrosia leaf	6%

FORMULA ACTIONS

- Disinhibits urine and leaches out dampness
- Drains heat from urinary tract, bowels, and heart/small intestine complex
- Protects the yin in the lower warmer

TONGUE

Dark, dull red if heat is in the lower warmer; bright red if in the heart.

PULSE

Floating or rapid.

CONTRAINDICATIONS / **C**AUTIONS

Classical: Do not use during first trimester of pregnancy or when miscarriage is threatened.

Do not use in acute *yangming* disease or with fever, profuse sweating, and excessive thirst, since increasing urination at this point would increase the fluid damage and damage to the stomach yin. Can be used to treat residual heat in the aftermath of *yangming* disease.

Modern: Use with caution with diuretic medications, as the diuretic action of the formula may potentiate the effects of these medications.

Caution should also be exercised with persons taking anti-diabetic medications. Short term use and close monitoring of blood sugar is advised.

Caution is advised when using this formula with persons taking antibiotics, levadopa, and prednisolone, as it may limit the effectiveness of these drugs.

DOSAGE

See page 6.

GENERAL INDICATIONS / MODERN APPLICATIONS

Abdominal/pelvic pain, acute
Ascites
Benign Prostatic
Hypertrophy (BPH)
Blood in urine
(hematuria)
Cardiogenic edema
Cervical erosion
Chlamydia
Cystitis, acute or chronic
Dermatitis, atopic
Diabetes insipidus
Diarrhea

Eczema
Edema, yang type
Exanthema
Glomerulonephritis
Gonorrhea
Hematuria (blood in urine)
Herpes (genital)
Hydronephrosis
Insomnia
Nephritis
Perimenopausal
syndrome
Prostatitis, acute
Pyelonephritis

Renal Calculus /
prevention of
kidney stones
Thrombocytopenic
purpura
Ulcerative colitis
Upper respiratory
infection
Urinary tract
infections (UTIs)
Urethral calculus
Urolithiasis
Vaginitis

FORMULA DISCUSSION

There is really no trick in determining whether to use Polyporus and Dianthus Formula (Zhu Ling Qu Mai Tang) for urinary tract issues. It is highly effective for UTIs (urinary tract infections), acute or chronic, as well as interstitial cystitis, or any time when the urine is inhibited and heat signs (dark urine, burning sensation during urination, fever, blood in urine, rapid pulse) are present. Applications outside common urinary tract infections and the like may require further differentiation. The most common applications for this formula throughout the worldi today are chronic and acute cystitis (bladder infection), pyelonephritis (kidney infection involving additional segments of the urinary tract), hydronephrosis (distension and dilation of the renal pelvis due to blockage), urethral calculus, prostatitis, vaginitis, and cervical ectropion (cervical erosion). It is also commonly used today to treat yellow vaginal discharge, idiopathic edema and damp-heat leg qi, diabetes insipidus, and acute damp-heat enteritis.

Whether the initial pathogenic factor was cold or heat, by the time Polyporus and Dianthus Formula (Zhu Ling Qu Mai Tang) is appropriate, there has been transformation into heat. The mechanism that leads to the conditions treated by Polyporus and Dianthus Formula (Zhu Ling Qu Mai Tang) is this: heat combines with water and "clumps" or "binds" (jiè), qi transformation in the lower warmer becomes obstructed and fluid distribution is compromised. This compromise is primarily inhibited urination, but includes thirst with a desire to drink, because the fluids are not rising up to nourish the throat. Another possible consequence of fluids being unable to eliminate through the urine is diarrhea. Once fluids have reached the lower warmer and are ready

for elimination, they should exit the body as urine. When this process is obstructed by *jiè*, the urine can become redirected to the large intestine and is transformed into diarrhea—the formula is thus indicated for acute enteritis as well as urinary tract infections. If there is insufficient elimination of the urine, it can counterflow back into the kidney, causing hydrone-phrosis, nephritis, or a number of serious complications.

The clumping (binding) of water and heat can back up and lead to qi disturbance in any of the organs of water metabolism. If the qi disturbance reaches the spleen, there is nausea, if it reaches the lungs, there is cough. The physician should be careful to not take these signs to be indicative of a respiratory disorder or prescribe treatment strictly for nausea. If the urine is inhibited, especially if the inhibition preceded the nausea or cough, then thoroughly investigate the lower warmer to determine whether it is the true origin of the problem. If so, **Polyporus and Dianthus Formula** (*Zhu Ling Qu Mai Tang*) will eliminate the qi disturbances in the middle and upper warmers by unblocking the source of the qi disturbance.

Polyporus and Dianthus Formula (Zhu Ling Qu Mai Tang) also treats heart heat or heat in the heartsmall intestine complex. When there is pathogenic heat in the heart, there will be irritability and insomnia. A heart with pathogenic heat will attempt to vent it upwards and outwards, causing thirst, red cheeks, or tongue/mouth sores. It will also undertake to siphon off some of that heat by transferring it to the small intestine. In its function to separate the clear from the turbid, the small intestine will dispatch the pathogenic heart heat to the bladder via the taiyang connection those two organs share. Because the elimination pathway is strictly taiyang, the kidney zang is not threatened by the pathogenic heat (unless an obstruction in the bladder causes the heat to counterflow.) The body typically responds to heat with water/fluids. In the case of heat in the heart/small intestine complex, the body will create extra urine to try and eliminate the pathogenic heat. Therefore one of the signs of heart heat is frequent urination. If the extra urine is insufficient to discharge the heat from the bladder, it is common for

the water and heat to bind/clump (jiè), creating inhibited urination. In any presentation of pathogenic heat in the heart, **Polyporus and Dianthus Formula** (Zhu Ling Qu Mai Tang), along with an increase of water consumption, will be an effective treatment.

Synergy of Ingredients

Polyporus (zhu ling) is one of two chief medicinals in Polyporus and Dianthus Formula (Zhu Ling Qu Mai Tang). It is the single most powerful medicinal for unblocking water-bind and leaching out dampness." It can unbind water accumulation and dampness not only in the urinary tract, but the entire lower warmer and even the interstices. Thus, when combined properly, polyporus (zhu ling) can be used to treat not only dampness and water-bind in the bladder and urinary tract, but also diarrhea, edema, leg qi, and more. It is frequently prescribed as a single-herb remedy for inhibited urination during pregnancy. Zhu ling has been shown to inhibit tumor growth and is considered anti-neoplastic, simultaneously aiding the immune response by increasing the production and activity of killer T cells.iii It also has antibiotic properties to fight bacterial infection.iv

The co-chief in this formula is dianthus (qu mai). Dianthus is the chief ingredient of OM's most popular formula for treating urinary tract infections: Dianthus Formula (Ba Zheng Tang). Dianthus (qu mai) is considered the primary herb for re lin (heat dysuria), xue lin (bloody dysuria) and shi lin (stony dysuria). It has the ability to enter the blood aspect to clear heat in the blood and break up stasis. It enters not only the bladder channel, but also the heart and small intestine. This empowers dianthus (qu mai) to more strongly clear heat at multiple levels and to address directly the attendant irritability and insomnia, by draining heart heat out through the small intestine. The addition of *qu mai* is also the primary reason why Dianthus Formula is contraindicated during pregnancy. Qu mai has the ability to stimulate uterine contractions and can invigorate blood circulation to induce or further the progress of labor.

Poria (fu ling) is one of the deputies in **Polyporus** and **Dianthus Formula** (Zhu Ling Qu Mai Tang). Compared to polyporus (zhu ling), poria (fu ling) is yang, because it addresses the failure of the yang aspect to transform water. Poria (fu ling) leaches out dampness, in part by its ability to supplement the

spleen qi and support the spleen's function to transform fluids. Polyporus (*zhu ling*) is yin, because it does not supplement qi and its entire focus is upon the yin: it treats yin-type (water) accumulations as well as regulating the functions of the two yin orifices."

The deputy with the highest percentage in the present formulation is lophatherum (dan zhu ye). It assists in disinhibiting the urine, but in its deputy role, lophatherum (dan zhu ye) strongly clears heat from the heart, small intestine, and stomach. It is highly effective to reduce fever and irritability. Most of the medicinals in this formula enter the bladder/kidney complex, but lophatherum (dan zhu ye) primarily enters the heart/small intestine complex and the stomach. These actions allow the formula to be more effective in the treatment of pathogenic heart heat, enteritis, and heat in the lower warmer counterflowing to vex the upper warmer.

Alisma (ze xie) serves as another deputy. Like most of the medicinals in this formula, it enters the kidney and urinary bladder channels. It is sweet, bland and cold, and can clear both excess heat as well as heat from "blazing ministerial fire". Alisma (ze xie) does not supplement the yin so much as provide for its protection by eliminating pathogens that damage yin. Its inclusion, along with anemarrhena (zhi mu), is what expands the application of this formula to include chronic issues and patterns arising from yin deficiency.

Anemarrhena (*zhi mu*) is an important modification to the original *Zhu Ling Tang* since it is the only medicinal in this formula that directly supplements the yin. It generates fluids and can directly address the thirst that often accompanies the patterns treated by this formula. Generating fluids is an especially useful action in treating a pattern of pathogenic heat in the heart because of the tendency for the body to respond to heat with fluid. Combined with alisma (*ze xie*), anemarrhena (*zhi mu*) effectively drains deficiency fire and protects the yin. Anemarrhena (*zhi mu*) also has an antibiotic capacity. Anemarrhena (*zhi mu*) and phellodendron (*huang bai*) are frequently combined to treat prostatic hypertrophy and prostatitis.

Andrographis (chuan xin lian), phellodendron (huang bai), and pyrrosia leaf (shi wei) are the remaining assistant medicinals. The first two, andrographis (chuan xin lian), and phellodendron (huang bai), are bitter and cold. Both have strong antibiotic properties. Andrographis (chuan xin lian) is powerful for clearing heat-toxin. It can be used as a single herb treatment for various bacterial infections affecting the urinary tract and throat. It enters the intestines as well as the lung and stomach channels. It assists lophatherum (dan zhu ye) to treat enteritis, though it is effective against urinary tract infections as well. Phellodendron (huang bai) clears both damp-heat and deficiency heat in the lower warmer. It directs qi downward, which helps to correct the "qi disturbance" caused by clumping (jiè). Since it drains all kinds of heat throughout the lower warmer, phellodendron (huang bai) assists the treatment of not only the damp-heat in the bladder and intestines, but also vaginitis, genital herpes, prostatitis, and cervical erosion.

The final medicinal in **Polyporus and Dianthus Formula** (*Zhu Ling Qu Mai Tang*) is pyrrosia leaf (*shi wei*). Pyrrosia leaf (*shi wei*) stimulates the waterway axis between the lung and bladder. It strongly unblocks the urine and drains heat in the lung and bladder, thus restoring proper flow of fluids between upper and lower. This action reduces cough while it regulates the water passages because it re-enforces the lung's role to regulate the distribution of water through the body.

Modern Applications

Urogenital Disorders

Many herbs in this formula have a strong antibiotic action. Therefore, many (but by no means all) of the urogenital conditions listed below are the result of bacterial infection.

Urinary Tract Infections: This is the most common use for this formula: any type of UTI, no matter what the cause. VIII, ix

Cystitis: This is a type of UTI. This condition causes pain and spasms in the urethra and bladder. It is generally due to a bacterial infection but could also be a reaction to an allergen.*

Prostatitis and Benign Prostatic Hypertrophy:

Both these conditions involve an accumulation of dampness (often with heat) in the prostate. There may also be bacterial infection or toxic heat involvement with an acute condition. Polyporus and Diathus Formula (Zhu Ling Qu Mai Tang) can drain most forms of lower warmer damp-heat accumulation.

There are many OM patterns that can be associated with Benign Prostatic Hypertrophy. The patterns that are best treated by Polyporus and Dianthus Formula (Zhu Ling Qu Mai Tang) are: damp-heat due to excess or yin deficiency fire or qi and yin deficiency.xi When there is significant blood stasis, as well as damp-heat, this formula should be combined with a formula that will resolve blood stasis in the lower warmer. (See Formula Combinations for suggestions.)

Kidney Syndromes

Kidney and Bladder Stones: This formula is effectively used for the prevention of renal calculi. A Japanese study in 1981 using a version of Zhu Ling Tang with 37 patients who had a tendency to kidney stone formation showed significant biochemical changes in the blood and urine which would lead to reducing the formation of kidney stones. Observations made during this trial included an increase in serum potassium levels, a decrease in serum calcium levels, a decrease in urine BUN and creatinine, and indications of improved liver function.xii

Another Japanese study in 1990-91, showed that Chorei-to (Zhu Ling Tang) enhanced the spontaneous discharge of fragmented kidney stones following extracorporeal shock wave lithotripsy (ESWL).xiii

Kidney Infection (Pyelonephritis) or Glomerulonephritis: If this condition is related to kidney deficiency, the patient may exhibit other signs of kidney qi, jing, and/or yin deficiency. There are many clinical studies to show the efficacy of this formula for pyelonephritis and glomerulonephritis especially when kidney qi and yin deficiency are the primary constitutional deficiencies.xiv If the pattern is one of yang deficiency, and cold symptoms predominate, Polyporus and Dianthus Formula (Zhu Ling Qu Mai Tang) is contraindicated. Poria Five Formula

(Wu Ling San) may be considered instead (see page 6).

Chlamydia: Laboratory studies have shown that several of the single herbs in Polyporus and Dianthus Formula (Zhu Ling Qu Mai Tang) have the ability to inhibit chlamydia trachomatis growth in vitro. Qu mai, zhu ling, and fu ling have all been shown to inhibit the growth of urogenital chlamydia trachomatis.xv

Dermatological Conditions

Atopic Dermatitis: Clinical studies have shown the efficacy of using Polyporus and Dianthus Formula (Zhu Ling Qu Mai Tang) in combination with Bai Hu Jia Ren Shen Tang to treat damp-heat dermatitis that is accompanied by qi and yin deficiency. One clinical study showed that within one year of the start of treatment the exanthema was essentially cleared.xvi

Herpes Zoster (Shingles): Polyporus and Dianthus Formula (Zhu Ling Qu Mai Tang) may be used in combination with other formulas to address the root condition in the treatment of acute shingles outbreak. An example of a possible combination would be Polyporus and Dianthus Formula (Zhu Ling Qu Mai Tang)to drain the damp-heat and Chai Hu Qing Gan Tang to clear liver heat or Gentiana Drain Fire Formula (Long Dan Xie Gan Tang) to clear liver and gallbladder heat.xvii

Anti-Tumor

Formulations of Zhu Ling Tang have been shown to have anti-tumor activity and the ability to stimulate the tumor necrosis factor. The single herb, zhu ling, has also been studied extensively for its anti-cancer properties. There have been studies performed on gastrointestinal, cervical, bladder, and liver cancer cells using zhu ling with varying levels of success.xviii

FORMULA COMPARISONS

Polyporus and Dianthus Formula (Zhu Ling Qu Mai Tang) and Guide Out the Red Powder (Dao Chi San)

Polyporus and Dianthus Formula (Zhu Ling Qu Mai Tang) is used in cases of clumping of heat and water in the lower warmer. This can cause a disruption in the direction of the qi flow. If the counterflow migrates to the heart, the symptoms will be like those for which *Dao Chi San* is indicated:

irritability, insomnia, cough, or mild nausea. Guide Out the Red Powder (*Dao Chi San*) is the formula of choice if these symptoms are accompanied by red cheeks, mouth/tongue sores, or severe thirst. Either pattern may have heat effusion (fever).

Polyporus and Dianthus Formula (Zhu Ling Qu Mai Tang) and Poria Five Formula (Wu Ling San) Both formulas disinhibit urination, but Poria Five Formula (Wu Ling San) is used primarily to drain dampness that has accumulated due to poor water metabolism or due to the penetration of pathogenic cold into the bladder. The root of this condition may also be weak kidney yang and spleen qi. The tongue may be swollen, wet and possibly pale or pale red. The pulse may be slippery, but also may be superficial and rapid. There is no heat clearing ability in this formula—it is warming. Polyporus and Dianthus Formula (Zhu Ling Qu Mai Tang), on the other hand, is used when there is dampness and heat in the lower warmer. This condition is usually associated with bacterial infection. The tongue may be red, with dark yellow coating or scant coating. The pulse may be rapid and thin or superficial. The former treats a condition of yang weakness with yin excess; the latter treats yang excess, sometimes due to yin deficiency.

Polyporus and Dianthus Formula (Zhu Ling Qu Mai Tang) and Gentiana Drain Fire Formula (Long Dan Xie Gan Tang)

Gentiana Drain Fire Formula (Long Dan Xie Gan Tang) can be used to treat urinary tract infection. This formula is more appropriate than Polyporus and Dianthus Formula (Zhu Ling Qu Mai Tang) if there were other symptoms present which indicated liver and gallbladder damp-heat, such as, bitter taste in the mouth, intercostal pain, migraine headaches, ear pain, or yang rising signs such as red face, red eyes, and irritability. The pulse may be wiry, rapid and forceful. The tongue may be red with redder sides, and yellow greasy coating.

Polyporus and Dianthus Formula (Zhu Ling Qu Mai Tang) and Andrographis Formula (Chuan Xin Lian Kang Yan Pian)

Both these formulas can be used to treat acute urinary tract infections. Andrographis Formula (Chuan Xin Lian Kang Yan Pian) is an antiphlogistic formulation and has a powerful action to destroy bacteria and eliminate heat-toxin, but a weak ability to disinhibit urine. It is used, therefore, when inflammation is the primary issue and the blockage to the urination is minimal. Polyporus and Dianthus Formula (Zhu Ling Qu Mai Tang) works on the mechanism of eliminating the pathogen through the urine and possesses a strong action to unblock the urine in order to drain the pathogen. Use Andrographis Formula (Chuan Xin Lian Kang Yan Pian) when the heat toxin signs include swollen lymph glands or sore throat.

Dosage

Acute: When treating acute disorders, it is usually beneficial to treat frequently with larger doses, in order to eliminate the pathogen without giving it a chance to revitalize/replicate itself. A strong adult can usually handle 3, or even 4 tabs every three hours for the first day. When symptoms subside significantly, continue formula at the same dosage every 4-5 hours for another day or to. Children and patients with weak digestion should have their doses cut accordingly.

Chronic: When treating a chronic condition, such as interstitial cystitis, with Polyporus and Dianthus Formula (Zhu Ling Qu Mai Tang), the usual adult dose will be 2-3 tabs, 3-4 times a day, depending on severity of the pattern and the constitution of the patient.

USEFUL **C**OMBINATIONS

For concommitant urinary stones and urinary blockage	Use with Amber Stone-Transforming Formula (Hu Po Hua Shi Pian). Combined, these two formulas dissolve stones, unblock urine, reduce pain in both back and lower abdomen/ bladder, stop bleeding, and clear heat.	
For inhibited, difficult urination with heat signs and an enlarged prostate (BPH—Benign Prostate Hypertrophy).	Combine with Prostate Formula (Qiang Lie Xian Fang). The treatment protocol would be to disinhibit the urination and drain damp-heat by using Polyporus and Dianthus Formula for short periods. Prostate Formula is better suited for long-term use. It supports the kidney and spleen yang to further drain damp and move blood in the lower warmer, thus reducing the size of the prostate.	
When damp-heat symptoms of a UTI or herpes infection involve liver/gallbladder signs and symptoms (bitter taste in the mouth, hypochondriac pain, dizziness, ear pain, genital itching, foul, yellowish vaginal discharge, irritability, menstrual pain, migraines, pelvic inflammatory disease, and/or prostatitis)	Combine with Gentiana Drain Fire Formula (Long Dan Xie Gan Tang).	
For menopausal symptoms with chronic urinary tract infections or vaginal irritation	Use with Two Immortals Formula (Jia Jian Er Xian Tang). Two Immortals Formula can be given long-term as a root treatment but if a UTI flares up, Polyporus and Dianthus Formula should be used.	
For yin deficiency with deficiency heat symptoms and a history of chronic urinary difficulties or interstitial cystitis	Use with Rehmannia and Scrophularia Formula (Zhi Bai Di Huang Wan). Use Polyporus and Dianthus Formula during the acute phase. Then, for long-term treatment, to nourish the yin and clear deficient heat, use Rehmannia and Scrophularia Formula.	

Endnotes

¹According to Doctor Huang Huang, in his book Clinical Application of 50 Medicinals, 3rd ed., page 219.

[&]quot;Yào Pin Huà Yì (Transforming the Significance of Medical Substances), Jia Jiu-ru, 1644.

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