

Featured Article

The Primary Pathological Triad

By William Maclean, M.Sc. Chin. Med.

There is a wide array of disharmony patterns that describe diseases within the diagnostic parameters of Chinese medicine. Recognition and identification of these patterns is at the heart of Chinese medicine. More often than not, and almost always in chronic conditions, patients present with multiple patterns, and the clinical picture can become quite complicated. The job of the clinician is to tease out the various presentations and try to discern the causal and pathological relationships between them. Even though many syndromes and combinations are possible, some patterns are so common as to be ubiquitous. One particular combination of patterns is seen so frequently in clinic, and has such a diverse range of effects and presentations that I have named it the “primary pathological triad” (PPT).



The primary pathological triad is three patterns of pathology that frequently occur simultaneously, are tightly interlinked and mutually engendering. The triad comprises Spleen yang qi deficiency, Liver qi stagnation, and Heat of some type, usually Damp Heat or Heat derived from constrained qi. In addition to the basic triad of pathology, there may be further complication by Blood and/or yin deficiency, Blood stagnation, shen disturbances, and Phlegm. The pathology can be quite complex, but can be traced back to interaction of the three main players.

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The manifestations and scope of the triad

The clinical manifestations of the PPT can be numerous and varied depending on the balance of pathologies, the constitution of the patient, and the etiological conditions. In essence, any combination of qi constraint, qi deficiency and Heat signs and symptoms are possible. Patients may tend to display more of one pattern than the others, be more or less equally balanced between

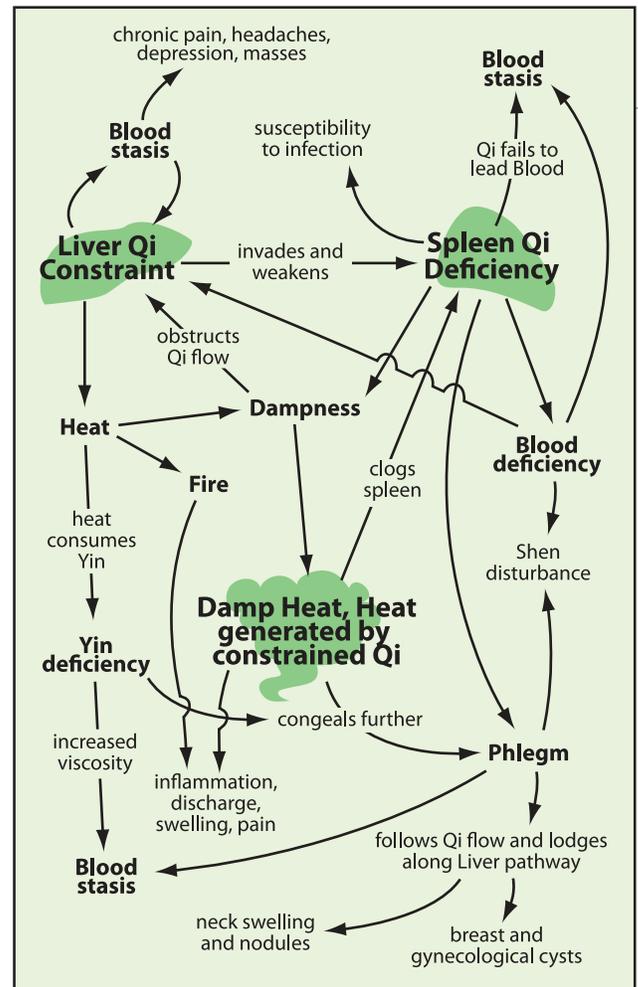


Figure 1. Some of the pathological relationships of the primary pathological triad

the patterns, or have a bewildering array of symptoms. In addition, the classical signs and symptoms of one pattern can be modified by the presence of the other, for example the pale tongue of qi deficiency is less pale when subjected to Heat and similarly the red tongue of Heat is not especially red when complicated by qi deficiency.

The pathological balance is not static, and changes depending on what is happening in the individual’s life. The

manifestations seen depend on where in the triad map the balance of the pathology falls at the time of assessment. (See Fig. 2).

In practice, the PPT is seen at play in a wide variety of chronic problems characterized by varying mixtures of gastrointestinal and autonomic nervous system dysfunction¹ and inflammation. Inflammation can be localized to a discreet region such as the reproductive system, skin or one or more joints, or be systemic. Many chronic diseases may have the PPT as their underlying pathology, from the relatively simple such as indigestion and gastro-esophageal reflux (GERD), to the more complex like chronic hepatic, biliary, pancreatic disease and inflammatory conditions like ulcerative colitis and connective tissue disease (lupus, rheumatoid arthritis etc.). Some endocrine problems (particularly thyroid and pancreatic) can also be traced to the PPT. It can also be found in chronic or recurrent infections such as genital herpes, sinus and ear infections, certain skin diseases, and recurrent inflammatory conditions of the genitourinary system. It should be noted that, while the PPT is very common and always warranting consideration, there are other pathological processes that can give rise to the conditions noted above, and not every case will be associated with the PPT.

Why is the PPT so common?

The PPT is generated largely by internal organ system dysfunction, which in turn is disrupted by pressures from the environment, the diet and the particular habits of the afflicted individual. The social, economic and environmental conditions found in modern societies (and presumably older ones as well), in combination with prevailing dietary and recreational habits, everyday stresses and pressures and the rapid pace of change, all contribute to producing the PPT. Put simply, a combination of stress (in its many guises²), worry, inappropriate or poor diet and eating habits³, alcohol, increasingly sedentary occupations and lifestyles and overuse of pharmaceuticals all play a part.

The problem – difficulties in treatment from complex pathology

One of the characteristic features of conditions associated with the PPT is the tendency of the main complaint to recur when only one of the pathologies is tackled. If one pathology stands out and is dealt with therapeutically, patients will experience some improvement in their condition, only to have it return later down the track. This is because of the self-perpetuating nature of the triad. The three main patterns of the PPT engender and reinforce each other in the following way. Liver qi constraint impacts on the Spleen and Stomach, weakening their

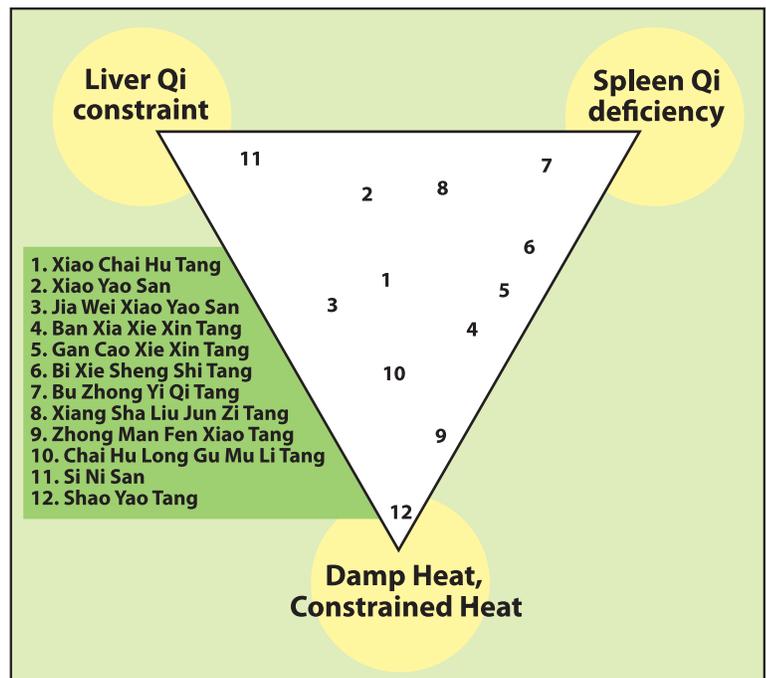


Figure 2. Pathological triad formulas map (edited for FDA compliancy)

functions and encouraging the generation of Dampness. Dampness is heavy in nature and tends to sink downwards to the lower body and the depths of the gastrointestinal system. Constrained qi, and the increase in qi pressure behind an obstruction, tend to generate Heat. Heat from qi constraint, once present and applied to pre-existing Dampness, creates Damp Heat. Dampness on its own, due to its sticky obstructing nature, can also generate Heat by blocking qi flow and so transform into Damp Heat.

When it comes to using herbs to treat complex phenomena like the PPT, conflicts arise. For example, the herbs used to regulate Liver qi and resolve constrained qi are pungent and dispersing. Pungent herbs are good at dissipating stagnant qi but their prolonged use can also disperse healthy zheng qi, leading to a gradual depletion and qi deficiency. The sweet warm herbs used to strengthen and supplement qi can aggravate Heat and Damp Heat, and have a cloying and congesting effect on qi. The bitter cold herbs used to clear Heat and Damp Heat weaken the Spleen, deplete qi and in the long term aggravate the Dampness.

The solution – harmonizing as the main therapeutic strategy

Harmonizing is the strategy employed to address the diverse pathology of the PPT while avoiding or minimizing the conflicts noted above. Harmonizing prescriptions combine herbs with opposing actions. They are typically complex, utilizing pungent hot, bitter cold and sweet warm substances in varying proportions to disperse stagnation, clear Heat and supplement qi. There are a number of formulas in the harmonizing group, each with a different emphasis. Successful treatment of the triad of pathological patterns requires that each pattern be addressed at the same time, otherwise clinical results will be short term and

the condition will tend to recur because the some of the causative factors still exist. For example, if only the Spleen is treated, the repeated insult by invasive Liver qi will continue to weaken it and the Spleen will be damaged again. If only Damp Heat is treated, the weakened Spleen will continue to produce Dampness and will likely be damaged by the bitter cold herbs or substances used to clear the Damp Heat. If only qi constraint is addressed the weak Spleen will continue to generate Dampness that will clog the qi.

Harmonizing formulae

The major prescriptions for dealing with the pathological triad can be assigned positions on the triad map according to the weighting of their therapeutic action. For example, **Xiao Chai Hu Tang** (Minor Bupleurum Decoction) can be mapped in the centre of the triangle as it is well balanced between the three major principles of treatment, dealing with each pathology adequately without being too biased towards any particular one. It strengthens the Spleen and supplements qi, regulates Liver qi and clears Damp Heat, in about equal proportions. This accounts for its popularity, manufactured in greater volume worldwide than any other formula, and its reputation as a ‘clearing’ prescription. When used for ‘clearing’, **Xiao Chai Hu Tang** is used for patients with numerous or contradictory signs and symptoms, and is applied in an attempt to ‘clear’ the symptom picture to allow the primary pathology to emerge.

Another popular and effective formula, **Ban Xia Xie Xin Tang** (Pinellia Decoction to Drain the Epigastrium) is a good example of how harmonizing formulae work. It contains seven herbs in three groups. The key feature for the use of this formula is a sense of blockage in the upper abdomen along with many other clear signs of qi dynamic dysfunction. The main aim of the formula is to get the qi dynamic working again. It does not specifically address Liver qi constraint, although the pungent herbs will move qi to an extent. It maps between Spleen qi deficiency and Damp Heat:

1. Ban xia (pinellia) and gan jiang (dry ginger), both pungent, and warm and hot respectively, used to resolve Phlegm Damp. Pungent herbs disperse qi and Damp accumulation, and therefore ‘take the weight off the Spleen’ enabling its qi to rise as it naturally should. Pungent warm herbs also have an inherent lifting tendency and so encourage Spleen qi to ascend.
2. Huang qin (scute) and huang lian (coptis), both bitter and cold, clear Heat and Damp Heat. Bitter cold herbs not only clear Heat, but have a descending effect. This neatly balances the ascending action of the pungent herbs and drives the engine of the qi dynamic, and gets Spleen and Stomach qi moving again.

3. Ren shen (ginseng), da zao (chinese dates) and gan cao (licorice), sweet and warm, strengthen the Spleen and supplement qi. Their potentially cloying sweetness is balanced by the pungency and bitterness of the other herbs, and their warmth counteracts the coldness of the Heat clearers.

Selection of the appropriate guiding prescription is based on a clinical assessment of the relative importance and dominance of any pathology. The three primary principles are to strengthen the Spleen to bolster qi (with sweet and warm herbs), regulate the Liver, invigorate qi and stimulate the correct functioning of the qi dynamic⁴ (with pungent dispersing herbs), and to clear Heat or Damp Heat (with bitter cold herbs). The above principles are prioritized depending on their balance, and any complicating factors that may be identified. Based on the clinical assessment, a suitable guiding prescription can be selected from the diagram above.

Conclusion:

The PPT is a remarkably common phenomenon in the modern clinic, and practitioners will recognize some of their patients immediately, and may see them in a different light. Whether this triad of pathology is more or less common than it was in Zhang’s day is anyone’s guess, but presumably humans being human, similar factors, with cultural variations, were at play.

The formulas of the harmonizing group and the deep clinical insights that lead to their creation are among the finest aspects of Chinese medicine, and the debt practitioners owe to the giants of Chinese medicine, like Zhang Zhong-Jing is immense. Without his genius, our therapeutic armory and way of seeing certain complex problems would be much poorer. His methods of classification and analysis of these and other common clinical phenomena and the formulas he devised to deal with them are as fresh and relevant today as they were 2,000 years ago.

Bio: William Maclean, M.Sc Chin. Med. is an internationally renowned practitioner, teacher and author from Australia, with 25 years of clinical experience in the field of Chinese medicine. Will teaches in the Masters programs at the University of Sydney and University of Technology Sydney, and lectures to students and practitioners around the world. In addition to his long years in practice, Will is the author (with Jane Lyttleton) of the Clinical Handbook of Internal Medicine series Volumes 1, 2 and 3, the Clinical Manual of Chinese Herbal Patent Medicines, and the Clinical Handbook of Chinese Herbs: Desk Reference.

Endnotes

1. Liver qi constraint can be seen in terms of autonomic nervous system dysfunction, specifically excessive sympathetic tone. It is mediated through the adrenal cortex and epinephrine, the hormone secreted in response to physiological and psychological stress. Increased levels of epinephrine in the blood increase activity in the sympathetic system, setting off the 'fight and flight' response. When the body goes into fight and flight mode, a series of physiological changes occur. Blood is routed away from non-essential systems (such as the digestive tract) and pumped into those that help escape the threat—heart and lungs, and the large muscles of the legs. Alertness, peripheral vascular tone and blood pressure increase. The muscles of the upper back and neck, being the areas most vulnerable to surprise attack (your primitive midbrain thinks your enemies will try to sneak up behind you and knock you on the head) tense up in anticipation, acting as a shield. Once the threat has passed, the parasympathetic nervous system kicks in, switches off sympathetic response and autonomic equilibrium is restored. In evolutionary terms threats of this type are relatively infrequent and after the threat has passed, the level of epinephrine in the blood returns to normal levels. Unfortunately, the modern world with its constant change, deadlines, global threats, financial pressures and so on creates a situation that the body interprets as a persistent low-level threat. The result is a constant low-level secretion of epinephrine and elevated sympathetic tone—the sympathetic nervous system never completely returns to resting level. The longer this state persists the more it is perceived by the body as normal. Then we begin to see the long-term effects of qi constraint, increased tension in the musculoskeletal system, especially upper back and neck, decreased blood supply and peristalsis in the intestines and increase in smooth muscle tone and spasm, peripheral vasoconstriction and poor circulation to the extremities, increase in blood pressure, increase in alertness and inability to switch off causing sleep disturbances, and so on.

2. In a broad sense the Liver's job (as defined by Chinese medicine) is to help the body adjust to change, both environmental and physiological. The Liver is responsible for the maintenance of homeostasis in response to changing conditions. This is what is meant by maintaining the free flow of qi. A good clinical example of the Liver's role is seen in women with premenstrual symptoms—breast tenderness, fluid retention, pain, irritability—usually attributed to Liver qi constraint. Following ovulation, levels of progesterone quickly increase in anticipation of conception. The Liver's job is to adjust the internal environment accordingly to ensure a smooth transition to the new state and so maintain equilibrium. When adaptation is poor, i.e. the Liver does not

do its job properly, physical manifestations of that failure, as noted above, are seen. The sum total of phenomena that lead to constrained Liver qi can be defined as those conditions that lead to a failure of the body to adapt quickly or completely enough to changing conditions, both external and internal. Stress, defined here as conditions leading to constrained Liver qi, includes phenomena that may not be considered inherently stressful, as it is popularly defined. In addition to the classical etiological stressors that lead to qi constraint as defined in Chinese medicine (anger, frustration, hatred, repressed emotion and so on), any phenomena that impacts on the body's ability to adapt to change is registered by the body as stress, with a clear physiological result (outlined above). These include activities that disrupt the internal clock and that run counter to millions of years of evolutionary adaptation to the various rhythms of the world—shift work and frequent crossing of time zones (air crew and business travelers) are particular culprits. Simple activities that are not thought to be stressful at all can produce measurable physiological stress. These include staying up late at night processing information (i.e. watching TV or staring at a computer) when the body is trying to go into shutdown mode, and so on. In many cases stress, as interpreted by the body, is the accumulation of many small and seemingly trivial activities, any one of which causes no problem but which accumulate over time and alter the body's ability to adapt.

3. The issue of diet is a large and complex topic, beyond the scope of this article. Suffice it to say that the particulars of the modern western diet with its emphasis on the volume of food consumed relative to physical output and overabundance of energy rich carbohydrates, sugar, dairy foods, fats, alcohol and processed or adulterated foods easily lead to Phlegm Damp, food stagnation, Liver congestion and internal Heat.

4. The qi dynamic is the movement of Spleen qi upwards and movement of Stomach qi downwards. This creates a dynamo that stimulates correct movement of qi through the digestive tract, and by extension the internal organ systems reliant on Spleen qi. When the qi dynamic fails qi accumulates or counter-flows causing abdominal bloating, nausea and vomiting, reflux, constipation and so on.

5. The paradoxical pulse is so called because it is the opposite of the pulse expected for the pattern it reflects. The paradoxical pulse is a very clear indicator of Liver invading Spleen and Stomach patterns, where the expected pulse is an replete pulse—wiry, strong etc., at the left middle position (Liver) and a deficient pulse—weak, thready etc., at the right middle position (Spleen/Stomach). The paradoxical pulse presents as a large bulge at the right middle position and a clear dip at the left middle position.

Also by William Maclean:

Clinical Handbook of Internal Medicine, Vol. 1, Lung, Kidney, Liver, Heart by William Maclean, Jane Lyttleton

The first of a 3-volume TCM clinical guide, covering Lung, Kidney, Liver and Heart disorders. Within each organ's section, pathologies are organized by established TCM patterns within biomedical categories. All disorders are discussed with reference to etiology pathophysiology, clinical features, treatment principle, prescription, modifications, patent medicines, applicable acupuncture points and clinical notes. Where applicable, variations and additional prescriptions are referenced. In addition, appendices contain information on; original unmodified formulas, processing methods, delivery methods, herbs contraindicated during pregnancy, incompatible and antagonistic herbs, toxic substances, and medicinals derived from endangered species and animals. A comprehensive and intuitive index makes it easy to search for topics by biomedical application, formula name or TCM pattern.

Clinical Handbook of Internal Medicine, Vol. 2, Spleen and Stomach

by William Maclean, Jane Lyttleton

The second of a 3-volume TCM clinical guide, with in-depth analysis of more than 20 common disorders affecting the Spleen and Stomach. Each pattern is discussed from the perspective of its presentation and treatment in a Western context, with insights, practical advice and clinical tips relevant to Western patients. Keys to diagnosis and pattern identification accompany major disorders. Disorders are discussed with reference to etiology pathophysiology, clinical features, treatment principle, prescription, variations, modifications, patent medicines, applicable acupuncture points and clinical notes. The clinical notes section offers general prognoses to help elucidate the kind of results that may be reasonably expected when correct treatment is applied, as well as a general estimate of the length of treatment required. As an added benefit the text includes a section on diet which includes information on what foods help treat common TCM patterns as well as a section on the properties and TCM actions of common foods.

Clinical Handbook of Internal Medicine, Vol. 3, Qi, Blood, Fluid, Channels

by William Maclean, Jane Lyttleton

This is the final volume of a 3-volume TCM clinical guide. It focuses on diseases of qi, blood, and fluids, and contains chapters on abdominal masses, blood stasis, colds and flu, depression, diabetes, edema, fainting, fits and funny turns, acute fever, persistent and recurrent fever, gallbladder disorders, headache, hysteria, neck lumps, numbness, obesity, painful obstruction (bi), phlegm disorders, purpura, sweating, thin mucus syndromes, and tiredness. All disorders are discussed with reference to etiology, pathophysiology, clinical features, treatment principle, prescription, modifications, patent medicines, applicable acupuncture points and clinical notes. A comprehensive and intuitive index makes it easy to search for topics by biomedical application, formula name or TCM pattern.

Clinical Handbook of Chinese Herbs

by William Maclean

Proficiency in the prescription of Chinese herbs depends not only on good diagnosis but on an intimate knowledge of the raw materials. This in turn depends on being able to discriminate the fine points of difference between the similar herbs within a group, and a deep understanding of the unique characteristics of each herb. This volume of comparative charts is designed to aid the student or the busy practitioner in selecting the optimal medicinals for their patients. Each table describes the characteristics of a group of herbs, including extensive indications with relative strengths of action and function, the domain, flavor, nature, and dosage guidelines. The tables and text in this book will facilitate efficient comparative study for the student, as well as make clear the fine points of discrimination for the experienced practitioner. Easy to use, with clear and accurate tables comparing all the main herbs used in a modern clinic, this tome is a practical assistant to the complex world of Chinese herbal prescription.

The Clinical Manual of Chinese Herbal Patent Medicines-Channels

by William Maclean, Kathryn Taylor

The extensively revised second edition (August 2003) of the Clinical Manual of Chinese Herbal Patent Medicines is an essential addition to the desk and bookshelf of all practitioners and students interested in using patent medicines. One nice feature of the text is its use of small icons in the left margin to highlight useful information. Each formula is discussed in terms of its TCM Actions, Biomedical actions, Indications, Composition, Combinations, Dose and Method of Administration, and Cautions and Contraindications. Another feature that facilitates quick reference is the authors' use of simple line drawings to illustrate the key symptoms and signs for each formula/pattern. These are often expressive of the emotional and psychological characteristics that match the pattern indicated. The text also includes: - An intuitive 75 page index, complete with listings for both biomedical and TCM disorders. - Tables of comparisons between similar formulas designed to aid differentiation. - Potential herb drug interactions laid out in table form. - A glossary describing the TCM medical terms used in the text in clear language.