

Principles of Pathogenesis

- The Principles of Pathogenesis
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 - Definition of Biao and Ben
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Zheng (vital qi) and Xie (evil qi)

- What is vital qi and evil qi (pathogenic factor)?
- Vital qi refers to the normal physiological function of the body as well as its resistant and recovering capacity, it can be called “**zheng**” in TCM.

Zheng (vital qi) and Xie (evil qi)

- Evil qi or pathogenic factor refers to every kind of pathogenic elements that leads to the occurrence of a disease. They are called “**xie**” in TCM.
- **Any metabolic waste** produced by the pathological changes such as stagnated blood, phlegm, water in edema, stagnated food or obstacles caused by parasites belong to pathogen (**xie**).

Deficiency of the vital qi

- TCM holds that pathogenic factors cannot invade body easily and cause disease ONLY if the vital qi is weak.
- According to Chapter 72 of HDNJ- SuWen (Plain Questions), “Pathogenic factors cannot cause trouble if the vital qi is sufficient”.

Deficiency of the vital qi

- Only when the vital qi is comparatively insufficient and unable to defeat pathogenic factors will the pathogens take the advantage and attack the human body.
- In Chapter 33 of Su Wen (Plain Questions) of HDNJ, it mentions that “Where pathogenic factors accumulate, the parts of the body must be deficient in the vital qi.”

Invasion of Pathogenic factors

- TCM emphasizes on the importance of vital qi. However, it does not exclude the pathogenic factors which actually cause a disease and even play a decisive role in some particular cases.
- For example, in such cases as trauma, poisoning or snakebite, even if the vital qi is exuberant (sufficient), the patient will be hurt unavoidably and fall ill.

Basic Pathogenesis

- Conflict between “Zheng”(vital qi) and “Xie”(evil qi)
- Imbalance of Yin and Yang
- Disturbance of Ascending and Descending

Invasion of Pathogenic factors

- The occurrence of a disease mainly involves two aspects, the vital qi and the pathogenic factors.
- The deficiency of vital qi is the basic internal cause while the invasion of *pathogenic factors as the important external cause* of the occurrence of a disease.

Conflict between “Zheng” and “Xie”

- The conflict between the vital qi and pathogenic factors.
- Such conflict is not only related closely to the occurrence of disease but also affects the development and the final outcome of a disease.

Conflict between “Zheng” and “Xie”

- It also has some direct influence on the transformation of the deficiency and excess of a disease.
- Therefore, the course of a disease is that of the conflict between the vital qi and pathogenic factors.

The relation between the conflict and the transformation of Deficiency and Excess

- In such case, pathogenic factors will take advantage of vital qi and cause a disease.
- With the rise and fall of the conflict between the vital qi and pathogenic factors, the transformation of syndromes will shift from the deficiency to the excess or vice versa.

The relation between the conflict and the transformation of Deficiency and Excess

- When the vital qi is exuberant, it can suppress pathogenic factors so as to prevent a disease coming.
- Either the deficiency of the vital qi or the excess of pathogenic factors can lead to the failure of vital qi in conquering pathogenic factors.

The relation between the conflict and the transformation of Deficiency and Excess

- **When pathogenic factors are excessive while the patient's vital qi is strong enough to resist,** then the conflict between the two sides is very intense, which clinically shows **excess syndrome of strong reaction.**

The relation between the conflict and the transformation of Deficiency and Excess

- Such syndrome (Excess S.) can be found in the early or middle stage of exopathic diseases (usually YangMing) or those diseases due to the stagnations: of phlegm, food, water and blood within the human body.
- Symptoms like **high fever**, maniac, loud speaking and coarse breathing, abdominal pain refusing touch, uroschesis (retention of urine) and constipation , replete (full) pulse, belong to excess syndrome

The relation between the conflict and the transformation of Deficiency and Excess

- The conflict not only produces such effects as pure excess syndrome or deficiency syndrome, but also leads to the coexistence of deficiency and excess syndromes. *That is the deficiency intermingled with excess conditions.*

The relation between the conflict and the transformation of Deficiency and Excess

- This can be found in the patient with dropsy (edema) due to insufficiency of the spleen.
- For the excess intermingled with some deficiency condition, it means excess syndrome dominates with some manifestations of deficiency, such as the case of consumption of body fluid due to excessive heat.

The relation between the conflict and the Final Outcome of a disease

- Besides showing the deficiency and excess, the conflict also determines the outcome of the disease.
- If vital qi prevails, the disease takes a favorable turn or recovers completely; if pathogenic factors prevail, the disease takes an unfavorable turn or even deteriorates and may result in death.
- **The most common outcome lies in the dominance of vital qi.**

Dominance of vital qi

- If a patient has fairly excessive vital qi, resulting in considerable capacity to resist pathogenic factors, or he has been given the prompt and proper treatment, then pathogenic factors are restrained in development, their pathogenic actions are weakening or disappear; the functions of pathological damaged viscera, channels and collaterals, tissues as well as organs will progressively recover, the consumptions of essence of life, the vital qi, blood, and body fluid will gradually be remedied; yin and yang will regain their relative balance on the new basis and finally the disease is cured.

Dominance of pathogenic factors

- If pathogenic factor dominant, a disease turns towards deterioration or even death.
- If the vital qi is too weak or pathogenic factors are too strong, the capacity of the organism to resist pathogenic factors becomes weaker gradually and is unable to restrain the development of pathogenic factors, then the pathogenic damage to the organism increasingly becomes more severe and the disease will deteriorate each day.

Dominance of pathogenic factors

- If the vital qi exhausts while the pathogenic factors dominate, then the function of viscera, channels and collaterals become weakened; the essence of life, vital qi, blood and body fluid are exhausted; yin and yang will depart forever and life comes to an end

Imbalance of Yin and Yang

- The viscera, channels and collaterals, qi, blood, ying and wei, the inward and outward, ascending and descending motion of qi in the human body can be divided into yin and yang, the various kinds of pathogenic factors such as six exogenous factors, seven emotions, improper diet and overfatigue can only form a disease by way of the imbalance of yin and yang of the organism (human body), so the imbalance of yin and yang is a high summary of various kinds of pathogenesis of all kinds of pathological changes.

Imbalance of Yin and Yang

- **Relative Excess of Yin and Yang:** excess syndrome results when the invading pathogens is exuberant.
- **Relative Deficiency of Yin and Yang:** exhaustion of vital essence brings on deficiency syndrome
- **Mutual Damage of Yin and Yang:** Yin damage extends to yang when deficiency of yin has reached such an extent that yang qi is involved, so that the production of yang qi is insufficient or exhausts. Yang damage extends to yin when the deficiency of yang is serious enough to interfere with the production of yin fluid, so that both yin and yang are deficient with the domination of yang.

Imbalance of Yin and Yang

- Repellence between Yin and Yang: a pathological state in which either yin or yang is extremely excessive, and stagnated and choked inside , or either yin or yang is too deficient so that the powers of the two sides are of great disparity. The stronger one will repel the weaker one.
- Depletion of Yin and Yang: the exhaustion of either yin or yang in which yin fluid or yang qi is suddenly exhausted in a great deal so that the state of impending death appears

Disturbance of Ascending and Descending

- This refers to such a pathological state in which the ascending or descending movement of the viscera's functional activities are disordered and yin, yang, qi, blood are imbalanced under the influence of pathogenic factors.

Disturbance of Ascending and Descending

- The ascending and descending, inlet and outlet movement of functional activities closely related to various aspects of the viscera, channels and collaterals, qi and blood, yin and yang, their disturbance may cause the functional abnormality of the organs, four limbs and nine orifices, the flaring up of heart fire, the impairment of dispersion and descending function of the lung, the impairment ascending function of spleen, the upward function of liver qi (yang rising), the failure of receiving qi in the kidney.

Problems in ascending and descending

- Lung qi normally descends but if loses its function will result in coughing, producing phlegm and shortness of breath, thoracic suffocation, this is lung qi counterflow. Prolonged coughing will hurt the lung qi, and then asthma or chronic bronchitis.

Problems in ascending and descending

- In case of spleen qi deficiency, spleen qi is supposed to ascend the clear, i.e. to transport all the micro substance to lung which disperse the qi and blood to various parts of the body after mixing with the oxygen. If the spleen fails to ascend, then dampness will accumulate resulting in qi deficiency, diarrhea and phlegm.

Classwork I: What if...

- If the gallbladder qi goes up →
- If the stomach qi fails to descend →
- If large intestine's transportation is disorder →
- In case of dysfunction of the urinary bladder →
- When yin, yang, qi and blood fails to ascend and obstruct the brain
→

The Ascending and Descending functions of Spleen and Stomach

- Spleen and stomach provide material basis for the acquired constitution.
- They are in the middle part of the body linking the upper and lower part so as to function as a pivot in the movement of ascending, descending, inlet and outlet.

The Ascending and Descending functions of Spleen and Stomach

- Their co-ordinating function may make the clear-qi ascend and the turbid-qi descend in order to nourish the whole body and expel the nuisance (waste), and make the physiological functions of other internal organs work normally.

The Ascending and Descending functions of Spleen and Stomach

- The disorder of the ascending and descending movements of the spleen and stomach will involve the following abnormalities: the distribution of yang qi is checked; the acquired essence cannot be stored up (the pure); neither food and drinks nor oxygen can be taken in; the product of metabolism (the impure) cannot be expelled out and consequently the other internal organs may be affected. Diseases will arise.

“Biao” and “Ben”

- Searching for the primary cause of a disease in treatment is to seek the fundamental cause of a disease so as to make a proper remedy. This is one of the basic principles of diagnosis and treatment of TCM on overall analysis of signs and symptoms, the cause, nature and location of the illness and the patient's physical constitution according to the theory of traditional Chinese medicine.
- In practise, “the treatment of biao (expectant treatment) and ben (casual treatment)” must be applied correctly.

“Biao” and “Ben”

- Both ‘biao’ and ‘ben’ means the root of a tree but ‘biao’ always refers to branch while ‘ben’ refers to the root.
- ‘Biao’ here means the incident, referring to:
 1. manifestation (of a disease in relation to its manifestation)
 2. pathogenic factor (in relation to body resistance)
 3. complication or relapse (of a disease in relation to its primary onset)
 4. disease in the exterior .. External 3 stages(in relation to that in the interior)

“Biao” and “Ben”

- “Ben” means the fundamental, referring to
 1. root or cause (of a disease)
 2. body resistance
 3. primary onset
 4. disease in the interior (Internal 3 stages)

Biao(secondary) and Ben (primary)

- For example, cause is the “ben” and symptom of a disease is the “biao”
- Interior syndrome is the “ben” while exterior syndrome is the “biao”
- In treatment of the fundamental and incidental disease, one must follow the principle that treatment must aim at the root cause of a disease.

Treatment Principle

To treat the incidental under the urgent situation

- Acute incidental disease must be given urgent treatment aimed at symptoms since delayed treatment of them will endanger the patient's life or affect the result of treatment of the fundamental of the disease.

For example: patient with **massive hemorrhage** of any cause should be treated with **emergency measures to stop bleeding**, which means to cure the “**biao**” first and “**ben**” thereafter.

Treatment Principle

To treat the fundamental when the condition of the disease permits.

- Casual treatment in chronic condition is to try one's best to find out the root cause of a disease for treatment when the case is relatively mild.

For example: in the case of hemiparalysis due to deficiency of qi with blood stasis, the deficiency of qi with blood stasis is fundamental while hemiparalysis is incidental, and treatment should be stressed on invigorating qi, promoting blood circulation and removing blood stasis.

Treatment Principle

- To treat both the **Incident and the Fundamental at the Same Time**
- It used to be believed that only when both the incidental and the fundamental of a disease **were acute** could they be treated at the same time.
- As a matter of fact, **treating these two simultaneously** turns out to be one of the **most frequently used, most effective and safest methods**. It may well be concluded that the majority of syndromes observed clinically need such treatment.

Treatment Principle

- An instance lies in the treatment of the common cold due to deficiency of qi. If only the exterior syndrome is relieved, qi will be injured even more; if only qi is invigorated, pathogen will linger in the body. The best therapy is to treat these two aspects at the same time, to treat “ben” by invigorating qi and “biao” by relieving the exterior syndrome.

Case One: Chronic Tracheitis (Phlegm fluid retention in TCM)

- A patient suffers from coughing, and shortness of breath with lots of phlegm which is clear and white, intolerance of cold, poor appetite, loose stool, pale tongue with white and slippery coat, slippery pulse.
- This syndrome belongs to spleen and kidney yang deficiency, phlegm fluid blocking the lung (which is ben? Which is biao?)
- What is the treatment principle?

Case One: Chronic Tracheitis (Phlegm fluid retention in TCM)

- Treatment principle: first treat the biao, that is lung (), using Xiao Qing Long Tang. When the phlegm is resolved, then () the spleen and kidney by using the Si Jun Zi Tang and Fu Gui Li Zhong Tang.

Case Two: Neurasthenia

- A patient suffered from neurosis and had the symptoms of dreaminess, frequent dizziness, blurred vision, palpitation, easily sweating. He suddenly caught cold with the symptoms of chills, fever, headache, stiff neck, running nose and floating and slow pulse.
- This syndrome is neurosis (TCM called insomnia or palpitation).
- Treatment priority: first treat the () and then the ().
- What is the treatment principle ?

Case Two: Neurasthenia

- Treatment principle: first using pungent warm herbs to () by using Ma Huang Tang; then tonifying () and calming the () by using Gui Pi Tang for treating insomnia due to heart and spleen deficiency.

Homework 6: Choices between biao or ben

- Pathogenic factors: pathogen () $\leftrightarrow$ vital qi ()
- Disease: etiology () $\leftrightarrow$ signs and symptoms ()
- New and old disease: new case disease () $\leftrightarrow$ prolonged disease ()
- Interior and exterior: interior () $\leftrightarrow$ exterior ()