Pathogenesis of Zang Fu

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Yin

Yang

Qi

Blood

Normal function

Dysfunction

harmonious activities & relationship

disturbance
Pathogenesis of Xin (Heart)

- Disturbance of the Heart Qi or the Heart Yang
  - Excess of the Heart Yang
  - Deficiency of the Heart Yang
  - Deficiency of the Heart Qi

- Disturbance of the Heart Yin or the Heart Blood
  - Deficiency of the Heart Yin
  - Consumption of the Heart Blood
  - Obstruction of the Blood vessels.
Excess of the Heart Yang
(exuberance of the Heart Fire 心火亢盛)

Cause

1. Accumulation of pathogenic Heat
2. Stagnation of Phlegm Fire
3. Fire transformed from emotional injury

Excessive type

Excessive type

Relative Excess of the Heart Yang due to excessive mental activities which consumes Heart Yin and Heart Blood

Deficient type

Inter transformable

Similar influences on heart (Xin)
Excess of the Heart Yang
(exuberance of the Heart Fire 心火亢盛)

Clinical manifestation

- Disturbed Heart spirit
  - Dysphoria, Insomnia, dream-disturbed sleep
talkative, or even mania

- Up-flaring Heart Fire
  - Red or dark red and prickly tongue with
  burning painful tip
  - Oral ulcer
  - Dry nose and mouth

- Blood Heat
  - accelerated flow of Blood
  - Palpitation, rapid pulse, various types of
  bleeding

- downward transmission of the Heart Fire
  - Scanty dark urine with burning sensation
Deficiency of the Heart Yang or Heart Qi (心阳 心气虚)

Cause

1. Gradual development of the consumption of the Heart Qi or the Heart Yang in chronic disease
   1. Deficient of zhong qi 宗气
   2. Deficient of kidney yang 肾阳
   3. Hypofunction of spleen 脾虚
   4. Qi stagnation & blood stasis 气滞血瘀
2. Sudden collapse of the Heart Yang in the critical stage of acute febrile disease
Deficiency of the Heart Yang or Heart Qi (心阳心气虚)

Deficiency of Heart spirit
- Listlessness, slow thinking, taciturn (少言)
- Delayed response, drowsiness, low voice.

Stagnation of pathogenic Cold in the Blood vessels
- Aversion to cold, cold limbs, pale and puffy or cyanotic face
- Stuffiness or stabbing pain in the cardiac region
- Uneven and weak pulse
- Slow or rapid or knotted and intermittent pulse
- Spontaneous sweating or even incessant profuse sweating 大汗淋漓 & prostration 衰竭

Affects Fei (Lung) and Shen (Kidney) and vice versa
Deficiency of the Heart Yin (心阴虚)

**Cause**
- Excessive mental fatigue
- Chronic disease
- Emotional injury
- Exuberance of the Heart & Liver fire

**Failure of the deficient Yin to restrict Yang**

**Hyperactivity of the Heart Yang**

**Fire of deficiency type**
- Feverish sensation over the soles, palms and Chest
- Night sweating,
- Restlessness, Insomnia
- Fine and rapid pulse red tongue with little coating
Deficiency of the Heart Blood (心血虚)

Cause

- Loss of Blood
- Inadequate production
- Excessive consumption of Blood by emotional injury

Clinical manifestations

- Fine & weak pulse
- Pale and lusterless complexion
- Pale tongue
- Numbness of extremities
- Insomnia
- Dream-disturbed sleep
- Palpitation
- Fright, panic, distractions
- Amnesia or mental derangement

Emptiness of the blood vessels

Loss of nourishment of the Heart spirit
Obstruction of Heart vessels (心血瘀阻)

**Cause**
- Deficiency of Heart Yang or Heart Qi
- Stagnation of Cold in the blood vessels
- Obstruction by Phlegm

**Clinical manifestations**
- Tight chest or pain in the cardiac region
- Or Sudden pain in the cardiac region
- Palpitation
- Cold limbs
- Soft or feeble pulse
- Knotted slow or intermittent pulse
- Sweating and prostration
- Chill
- Cold extremities
- Cyanotic complexion

Can be induced or aggravated by over-fatigue, exposure to cold and emotional disturbance.
Pathogenesis of Fei (Lung)

Disturbance of Lung Qi
- Disturbance of the movement of Lung Qi (dispersion & descending)
- Deficiency of the Lung Qi

Disturbance of Lung Yin
- Excessive consumption of the Lung Yin
- Exuberance of Fire due to Lung Yin deficiency
Disturbance of movement of Lung Qi

**Causes**

- Attack of exogenous pathogens
- Obstruct by Phlegm
- Fire transformed from excessive ascending of the Liver Qi
- Deficiency of the Lung Qi
- Deficiency of the Lung Yin.

**Fail to**

- Disperse
- Descend

**Upward adverse flow of the Lung Qi**

- Oliguria
- Edema

**Irregular water metabolism**

**Consume & impair Lung Qi & Lung Yin**
Disturbance of movement of Lung Qi

Dispersion failure

↓
Decline of the respiratory function

↓
Dyspnea

Stagnated flow of Lung Qi

↓
Stagnation of the defensive Qi

Weak superficials

↓
Stuffy nose

Frequent sneeze

Itchy throat, cough

Spontaneous sweating

More susceptible to exogenous pathogens

Descending failure

↓
Cough with profuse sputum

Tight chest

Constipation
Deficiency of Lung Qi

- Disturbance of movement of the Lung's Qi
- Excessive consumption in chronic disease
- Excessive consumption by over-fatigue

\[ \downarrow \]

- Decline of respiratory function
- Deficiency of the defensive qi (wei qi)
- Disturbance of distribution and discharge of body fluid

\[ \downarrow \]

- Shortness of breath
- Spontaneous sweating
- Formation of phlegm
- Fluid retention or even edema.
Disturbance of the Lung Yin

- Deficient of the Lung Yin
- Exuberance of Fire
due to Lung Yin deficiency
Disturbance of the Lung Yin

Prolonged attack by pathogenic Dryness or Heat
Stagnation of Phlegm and Fire
Fire transformed from emotional injury
Disturbance of movements of Lung Qi

Impairment of the Lung Yin

Dry cough with or without little sputum
Thick sputum with or without blood stain
Shortness of breath
Fever, night sweating
Mala flush
Feverish sensation over the palms, soles and chest
Affects the Kidney Yin in prolong deficiency
Pathogenesis of Pi (Spleen)

- Deficiency of Spleen Qi
- Deficiency of Spleen Yang
- Fluid accumulation in Middle Jiao
- Deficiency of Spleen Yin
Deficiency of Spleen Qi

- Improper diet
- Congenital defect
- Over-fatigue
- Excessive consumption in chronic diseases

Fail to transform & Transport
Disturbance of the ascending-descending movements
Hypofunction
Inadequate production of Qi & Blood

Indigestion
Tastelessness in the mouth
Epigastric & abdominal fullness
Loose stool or diarrhea
Dizziness
Bleeding
Protrated diarrhea
Prolapse of the rectum
Prolapse of other visceral
Deficiency of the Spleen Yang

Further development of Spleen Qi Deficiency

Weakness of Fire in Mingmen

Fail to warm the Spleen Yang

Cold interior

Failure to steam & transform water

Water retention

Epigastric and abdominal pain with cold sensation

Diarrhea with undigested food

Diarrhea at dawn

Phlegm & rheum

Edema
Fluid accumulation in Middle Jiao
水湿中阻

Deficiency of Spleen Yang

- Failure of the Spleen to transform & transport food & water

Disturbance of the water Metabolism

- Water retention

- Production of phlegm & rheum

- More susceptible to exogenous dampness
Fluid accumulation in Middle Jiao

Transform into Cold

Retained Water

Transform into Heat

Further impair Spleen yang
Exuberance of the Dampness with Yang Deficiency

Dampness Heat
steam Liver & Gallbladder

abnormal discharge of bile
jaundice
Deficiency of Spleen Yin

- Consumption of fluid by febrile diseases
- Protracted diarrhea
- Hemorrhage

Hypofunction of Spleen

- Deficiency of Body Fluid

- Deficiency of Stomach Yin

- Upward adverse flow of the Stomach Qi

- Abdominal distention
- Loose stools
- Indigestion

- Dry mouth & throat
- Red tongue with little coating

- Hiccup, or eructation

嗳气
Pathogenesis of Gan (Liver)

Disturbances of Liver Qi & Liver Yang
- Stagnation of Liver Qi
- Transverse invasion of Liver Qi
- Flaring up of Liver Fire

Disturbances of the Liver Yin & Liver Blood
- Deficient of Liver Blood
- Hyperactivity of Liver Yang
- Stirring of Liver Wind
Stagnation of Liver Qi 肝气郁结

- Emotional depression
- Excessive anger

Impairment of Liver

- Qi stagnation
- Fail to dredge & disperse

Distending pain at stagnated area
Hypochondriac pain
With phlegm or blood → form mass
Goiter
Lump in the breast with distending pain
Lower abdominal pain
Painful testicles
Dysmenorrhea 痛经
Hiccups, acid regurgitation
Poor appetite, distended stomach
Transverse invasion of Liver Qi
肝气横逆

Qi stagnation

Fail to dredge & disperse

Liver qi transversely invades stomach & spleen

Stomach Qi fail to descend

Adverse upward flow of Stomach Qi

Spleen dysfunction

Belching
Acid regurgitation
Vomiting
Epigastralgia

Diarrhea with abdominal pain
Flaring up of Liver Fire 肝火上炎

Violent rage
Depression
Liver Qi stagnation
Exuberance of Heart fire

- Over ascend of Liver Yang
- Over rising of Liver Yang
- Consume Yin & Blood

- Distension of head
- Headache
- Flushed face
- Congested eyes
- Restlessness
- Irritability
- Sudden tinnitus or deafness

- Flaring up of Liver fire
- Attack tendons & meridians
- Stirring up of Liver Wind
- Syncope, Muscular spasm
Deficient of Liver Blood

- Excessive blood hemorrhage
- Chronic diseases
- Deficiency of Spleen & Stomach

Deficiency of Blood

Deficiency of Liver Blood

Dysfunction of regulation of Blood volume

Malnutrition of eyes
  - Dry eyes, dizziness, hypopsia (视力减退)

Malnourishment of tendons & vessels
  - Stiff joints or numbness of limbs

Induce pathogenic dryness & wind
  - Itching, muscular spasm
Hyperactivity of Liver Yang 肝阳上亢

Liver & Kidney Yin deficiency

Emotional disturbances

Adverse upward flow of Liver Qi

Dizziness
Tinnitus
Flushed face
Irritability
Taut & rapid pulse
Lassitude of loins & legs
Stirring of Liver Wind 肝风内动

Severe injuries cause by heat to the Liver meridians or Liver Yin
Deficiency of Liver Yin & Kidney Yin
Hyperactivity of Liver Yang

Malnourishment of tendons
↓
Liver Wind

Tremor of limbs 手足震颤
Muscular spasm
Syncope
Facial palsy
Hemiplegia 偏瘫
Pathogenesis of Shen (Kidney)

- Insufficiency of Kidney Qi
  - Deficiency of Kidney Essence
  - Unconsolidation of Kidney Qi

- Disturbance of Kidney Yin & Kidney Yang
  - Deficiency of Kidney Yin
  - Deficiency of Kidney Yang
Deficiency of Kidney Essence 肾精不足

**Cause**
- Congenital
- Old age
- Chronic disease
- Improper postnatal care

- Children
  - Retard growth & development
- Adolescent
  - Delay production of “Tiangui”
- Middle age
  - Early senility, decline of sexual function
- Weak bone
- Mental retardation
Unconsolidation of Kidney Qi 肾气不固

Cause

- Insufficiency of Kidney Qi in children
- Debility
- Intemperance in sexual activity
- Chronic disease

Dysfunction of Kidney Qi

- Fixation
- Storage
- Inspiration

Incontinence of defecation & urination

Premature ejaculation

Spermatorrhea 遗精

Dyspnea 呼吸困难
Deficiency of Kidney Yin

Chronic disease
Prolong present of fire pathogens
Extreme emotional fluctuation
Fire cause by hyperactive of other Zangfu
Hemorrhage
Over dose of warming herbs
Intemperance of sexual activity

Deficiency of Kidney yin
Uncontrolled Yang (fire of Mingmen)
Hyperactivity of internal fire
Production of internal heat syndrome

Emaciation
Weak loins & knee
Dysphoria, dreaminess
Tidal fever, tinnitus, dizziness
Feverish sensation in sole of foot, palm & chest
Mala flush,
Night sweating
Red tongue with little coating
Thin & rapid pulse
Deficiency of Kidney Yang

Yang deficiency of Spleen & Heart

- Excessive sexual activity

- Endogenous cold

- Decline of reproductive function

- Decline of water metabolism

- Weak loin & knee with cold feeling

- Impotence

- Infertility

- Edema

- Diarrhea with undigested food

- Early morning diarrhea
Pathogenesis of Dan (Gall Bladder)

- Dysfunction of bile excretion
  - Stagnation of Liver Qi
  - Invasion of Damp-heat pathogen
- Debility of decision making
  - Congenital weak constitution
  - Deficiency of Gall Bladder Qi
Dysfunction of bile excretion

Stagnation of Liver Qi due to emotional injury

Middle Jiao Invaded by Damp-heat pathogen

Stagnation of bile excretion

Further stagnation of Liver Qi

Dysfunction of Spleen & Stomach

Jaundice caused by overflow of bile to the skin

Generate internal heat cause restlessness, insomnia

Generate internal heat
Debility of decision making

Congenital weak constitution
Sudden terror
Chronic disease

Deficiency of Gall Bladder Qi

Timidity Doubtfulness Hesitation
Pathogenesis of Wei (Stomach)

- Deficiency of Stomach Qi
- Stomach cold
- Deficiency of Stomach Yin
- Stomach heat (fire)
Deficiency of Stomach Qi

Improper diet
Chronic disease
Congenital weak constitution

Decline in food digestion & transportation

Anorexia
Poor appetite
Epigastric fullness
Reverse flow of qi upwards
Vomiting
Nausea
Hiccup
Stomach cold

Excessive intake of raw cold food with cold nature

Congenital weak Spleen & Stomach Yang

Hypofunction
- Digestion
- Transportation
- Transformation
- Stagnation of Qi & Blood

Indigestion
Spasm of vessels causes severe pain which can be relieved by warm water
Deficiency of Stomach Yin

Pathogenic Heat

- Weakened functions
  - Receiving
  - Digesting
- Qi fail to descend

- Poor appetite
- Dry red tongue with no coating
- Distended abdomen
- Nausea
- Emaciation
- Oral ulcer
Stomach heat (fire)

Pathogenic Heat
Improper diet
Alcohol
Hot, acrid, fatty food
Qi stagnation
Blood Stasis
Phlegm
Undigested food
Fire from Liver & Gallbladder

Hyperactivity
Impair Body Fluid
Dry heat
Stomach Qi fail to descend
Reverse upward flow
Deficiency of Stomach Yin
Flaring of fire upwards

Increase appetite
Gastric discomfort
Bitter taste
Thirsty
Constipation
Nausea
Soul, bitter & yellowish vomitus
Swelling & painful gum
Hematemesis
Pathogenesis of Small Intestine

Unable to receiving

Unable to digest food

Fails to separate the nutrients from the waste

Heat from heart fire

Diarrhea or vomiting
Abdominal pain or distention after eating
Diarrhea with undigested food
Borborygmus

Painful urination with scanty dark urine or dribbling of urine with stabbing pain
Oral ulcers
Red tongue
Pathogenesis of Large Intestine

- Improper diet
- Undigested food
- Dampness Heat
- Dampness Cold
- Qi failure to descend
- Dry Heat
- Yang or Qi deficient
- Weak Kidney Qi
- Sinking of Qi in Middle Energizer

Transport Dysfunction
- Abnormality of the discharge of feces
- Diarrhea or loose stool
- Diarrhea with pus, blood & tenesmus 里急后重
- Dry stool or constipation

Protracted diarrhea
- Incontinence of defecation
- Prolapse of the rectum
Pathogenesis of Bladder

Deficiency of Kidney Qi or Yang
Excessive pathogens

Disturbed steaming effect of Kidney

Kidney fails to store and loses its steaming effect

Disturbance in urination
frequent and urgent urination with turbid urine
Dribbling
or difficulty in urination
or even urine retention

Enuresis 遗尿 & incontinence of urine
Pathogenesis or Triple Energizer

Disturbance of movement of Qi

Heart, Lung
Spleen, Stomach, Liver, Gall Bladder
Kidney, Bladder

Disturbance of water regulation

Lung
Spleen
Kidney
Intestines

Dysfunction of Zangfu

Irregular water metabolism
Pathogenesis of Brain

Dysfunction of Five Zangs $\rightarrow$ Deficiency of Qi, Blood & Body fluid

Deficiency of Kidney Essence $\rightarrow$ Deficiency of Marrow

Yang or Qi Deficiency $\rightarrow$ Yang Qi fail to ascend
The Brain
“sea of marrow”

- Kidney
  - stores essence
  - produce marrow

- Brain
  - House primordial spirit
  - Center of life activities

- Governing sensory organs & movement
- Dominate mental activities, especially memory
  (Attribute to five zangs)
The Brain
“sea of marrow”

Dominate mental activities
Thinking
Judging
Memory

Sufficient brain marrow
Quick thinking & response
Good memory

Insufficient brain marrow
Dizziness
Forgetfulness
Slow thinking & response
Poor intelligence
Lethargy
Vertigo
Tinnitus
The Brain

“sea of marrow”

Govern sensory organs, speech, movement of limbs

Sufficient brain marrow

Good senses (vision, hearing, smelling & tasting)
Fluent speech
Synchronized movement of limbs

Insufficient brain marrow

Bradyesthesia 感觉迟钝
Dyskinesia 运动障碍
Pathogenesis of Marrow & Bone

- Congenital factors
- Acquired factors
- Protracted exhaustion by heat pathogen
- Cold & deficient Lower Energizer
- Deficient Essence & Blood

Retarded growth & development
Soft, fragile, porous bone
Pathogenesis of vessels

- Depletion of Body Fluid
- Phlegm stagnated
- Qi stagnation
- Cold pathogen

Stagnation of Qi & Blood
Pathogenesis of vessels

- Heat pathogen
- Deficient Spleen Qi

Bleeding
Uterus

Liver
(1) Governs dredging & dispersing
(2) Stores blood & regulate its volume

Regulate movement of qi
Ensure sufficient & smooth transportation of blood

Uterus:
Produce menses
Conceive fetus

Thoroughfare vessel 治脉 governs qi & blood

Spleen & Stomach

Conception vessel 任脉 governs uterus & pregnancy

Kidney
Essence

Tiankui: Promote development & maturation of uterus
Pathogenesis of Uterus

- Abnormality of Qi & Blood
- Dysfunction of Zangfu
- Deficient of Qi & Blood in Ren (Conception) & Chong (Thoroughfare) meridians

- Irregular menstruation, leukorrhea
- Abnormality in conception, pregnancy & labor