



## Physiology and Pathology of Digestion in Traditional Chinese Medicine

消化功能的中醫生理學與病理學




## Review of last lecture

- Traditional Chinese Medicine is a medical system based on ancient Chinese philosophies and clinical observations
- The five-organs in TCM are not actual organs but symbols of the five phases in the “wheel of life”
- Emphasis on harmony and balance




## 回顧上次的講課

- 中醫的根本是中國哲學與臨床實踐
- 中醫的五藏不是實際的器官而是五行的代表
- 和諧與動態平衡是中醫治療的目標



## Advantage of TCM

- Allow great variety of treatment
- Allow fuzzy treatment
- Customized treatment according to the individual
- Better explanations for psychosomatic conditions




## 中醫的優勢

- 更多的治療方案
- 允許模糊式的治療
- 個體化治療
- 對情志致病有認知




## TCM Physiology - what we will cover

- Qi, Blood, Body Fluid, and Essence
- Five Organs
- Relationship between digestion and the other organs



### 中醫生理學—講課的範圍

- 氣、血、精、津液
- 五藏
- 與消化有關的生理與病理現象



### Not Covered

- Six Fu (guts/entrails)
- Meridian Theory
- Extra-ordinary Fu (guts/entrails)
- Interaction of yin and yang
- Interaction of five-phase (elements)
- and many more



### 不包括的有：

- 六腑
- 經絡
- 奇恆之腑
- 陰陽／五行
- 還有很多。。。。




### TCM Physiology

中醫生理學



### Four Essential Substance

- Qi
- Blood
- Body Fluid
- Essence



### 人體的物質基礎

- 氣
- 血
- 津液
- 精



## Qi 氣

- Fundamental state/substance of the universe
- Categorized as Yang
- Mostly functional, therefore formless 無形
- Imperceptible by sensual organs



## 氣

- 宇宙原本 / 基礎 / 本初狀態

• 道德經：「道生一，一生二，二生三，三生萬物。」莊子知北游篇曰：「通天下一氣耳，聖人故貴一。」李道純曰：「道生一，虛無生一氣；一生二，一氣判陰陽。」金丹圖：「道自虛無生一氣，便從一氣產陰陽，陰陽再合成三體，三體重生萬物張。」

- 屬於陽
- 無形而流動
- 難於查知或量化



## Functions of Qi 氣的作用

- Propel and Activate 推動作用
- Warming 溫煦作用
- Protect 防禦作用
- Upholding 固攝作用
- Transforming 轉化作用



## Kinds of Qi 氣的種類

- Every organ has its own Qi 每一個藏腑都有自己的氣
- Primordial 元氣 (associated with essence in Kidney)
- Pectoral/Great 宗氣/大氣 (associated with Lung)
- Nutrient 營氣 and Defensive 衛氣 (associated with Blood)



## Movement of Qi

- Constantly in motion
- The movement of Qi along the organs is a critical health issue
- The value of Qi and Blood is in its flow (氣血以流通為貴)



## 氣的運行 (氣機)

- 氣是不停得在運動
- 氣的運動通常是疾病的關鍵
- 氣血以流通為貴



## Blood 血

- Like blood in western medicine but different
- Categorize as Yin
- Not Formless 有形
- Flows in blood vessel



## 血

- 液體，有形（廣義），有色
- 屬於陰
- 流動於脈內



## Function of Blood

- Provide nourishment to body parts
- Moisturizing (yin)
- Substance for mental and sensual activity



## 血的功能

- 物質上的營養（營血）
- 滋潤
- 與精神活動相關



## Relationship between Qi and Blood

- Resemble the relationship of Yin and Yang
- Give rises to each other




## 氣與血的關係

- 有如陰陽的關係
  - 對立、消長
  - 互根、轉化
- 長期以互根互用
- 短期以對立為主



### Relationship between Qi and Blood

- Blood carries Qi (especially nutrient and defensive)
- Blood is the physical base of Qi
- Qi moves Blood
- Qi holds Blood




### 氣與血的關係

- 氣為血之帥
- 血為氣之母
- 氣能生血
- 血能生氣
- 氣能行血
- 血能載氣
- 氣能攝血



### Body Fluid 津液

- Categorized as Yin
- Consist mainly of water
- In blood vessel, it is part of blood
- Outside blood vessel in various form




### 津液

- 屬於陰
- 主要是水
- 與血互相轉換
- 在脈內是血
- 在脈外是津液（生理／病理）



### Functions of Body Fluid

- Moisturizing
- Nourishing - as an extension of blood
- As an reserve for blood (can be pathological)
- Transportation of waste



### 津液的功能

- 滋潤
- 營養（血的衍生）
- 與血互相轉換
- 運輸與排泄



### Definition of Essence 精

- Narrow definition: reproductive material i.e. semen/egg (生殖之精)
- Broad definition: precious material (精華)




### 精

- 狹義：生殖之精
- 廣義：精華
  - 體內五藏之精
  - 體外自然界之精



### Essence 精

- Interchangeable
- A priori/prenatal (先天) and
- A posteriori/postnatal (後天)



### 精

- 體內
  - 先天之精
  - 後天之精
- 體外：流動、互動、互根



### Five (Symbolic) Organs

- Heart - Fire
- Lung - Metal
- Spleen - Earth
- Liver - Wood/Plants
- Kidney - Water



### 五藏 — 藏象

- 心 — 火
- 肺 — 金
- 脾 — 土
- 肝 — 木
- 腎 — 水



### Kidney - Water

- Correspond with Winter
- Yin of the Yins (陰中之陰)
- Storage/Death/Rebirth
- Imagine a seed in the winter



### 腎 — 水

- 冬季
- 陰中之陰
- 儲存／死亡／重生
- 種子／冬季



### Kidney - Functions

- Storage of Essence 腎藏精
  - Growth
  - Reproduction
  - Blood and bone marrow
- Controls water



### 腎的功能

- 腎藏精
  - 生殖、發育、血與骨髓
- 腎主水
- 腎為元陰元陽
- 腎為先天之本



### Liver – Wood (plant)

- Correspond with the Spring
- Yang of the Yins (陰中之陽)
- Growth/Ascending/Shoot
- Imagine a growing sprout in the Spring



### 肝 — 木

- 春季
- 陰中之陽
- 生長／疏發／條達
- 萌芽／春季



### Liver - Functions

- Flow and Release 肝主疏洩
  - circulation of blood
  - assist in digestion
  - emotion and desire
- Storage of Blood
- Menstruation



### 肝的功能

- 肝主疏洩
- 肝藏血
- 氣機
- 情志
- 消化吸收
- 氣血運行
- 部分的排泄 (月經)



### Heart - Fire

- Correspond with the Summer
- Yang of the Yangs (陽中之陽)
- Burning/Glowing/Disperse
- Imagine a candle light




### 心 - 火

- 夏季
- 陽中之陽
- 光明 / 主宰
- 燭照 / 盛夏




### Heart - Function

- Governs Blood
  - Driving force of circulation
  - Key to the synthesis of blood
- Control mental activities



### 心的功能

- 心主血脈
- 心主神明
- 心藏神





### Lung - Metal

- Correspond to the Fall
- Yin of the Yangs (陽中之陰)
- Falling/Descending/Sprinkling
- Imagine falling leaves



### 肺 - 金

- 秋季
- 陽中之陰
- 宣發 / 肅降 / 調節
- 落葉 / 秋



### Lung - functions

- Governs Qi (肺主氣)
- Respiration
- Pectoral qi -> overall qi
- Dispersion of qi
- Promote circulation (肺朝百脈)
- Regulate the passage of water



### 肺的功能

- 肺主氣，司呼吸
- 肺主宣發肅降
- 肺主治節
- 氣機運行
- 輸布水液
- 調節水道
- 氣血運行
- 表皮




### Spleen - Earth

- Correspond with the change of seasons (脾旺於四季)
- Contain and sustain everything
- Holding/transforming/nurturing
- Imagine the garden soil




### 脾 - 土

- 脾旺於四季 / 長夏
- 脾為至陰 (承載 / 長養萬物)
- 支撐 / 轉化 / 供養
- 大地 / 沃土 / 變化



### Spleen - Function

- Transformation and transportation (脾主運化)
  - Digestion
  - Absorption
  - Movement
- Upholding (脾主升清)
- Rules blood (脾統血)




### 脾的功能

- 脾主運化
  - 消化
  - 吸收
  - 運輸
- 脾主升清
- 脾生化氣血



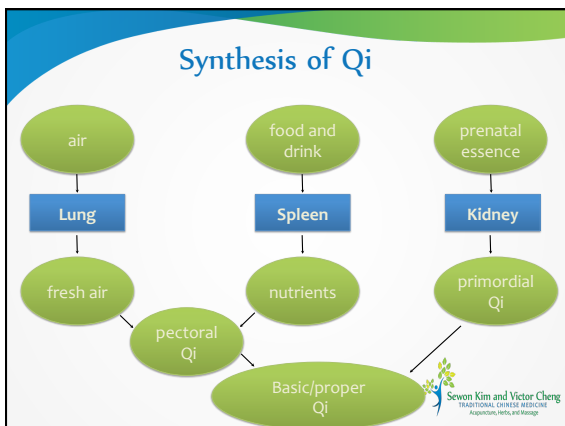
### Spleen - relation to other body parts

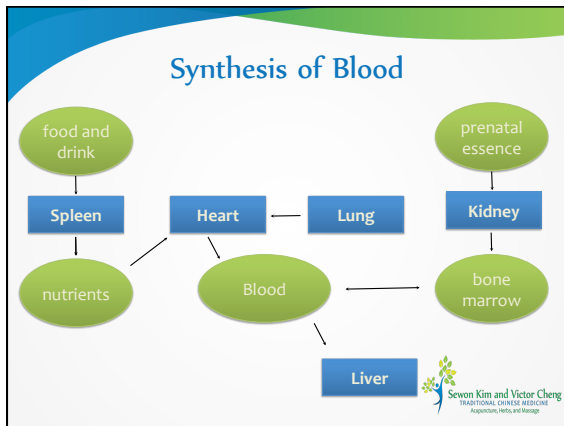
- Governs muscle and limbs
- Opens into the mouth
- Manifest on the lips
- **Is the base of postnatal essence (脾為後天之本)**
- **Is the key to the generation of Qi and Blood**



### 脾的功能

- 脾主四肢 (勞逸)
- 脾為氣血生化之源
- 脾為後天之本



### Relationship between Heart and Spleen

- Fire give rises to Earth (火生土)
- Heart governs blood (心主血) and Spleen rule blood (脾統血)
- Spleen generate blood to nourish Heart
- Heart-mind can affect the transformation and transportation function of Spleen

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### 心火與脾土的關係

- 火生土
- 心主血、脾統血
- 脾生化氣血養心神
- 心對脾有主宰的作用

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### Relationship between Lung and Spleen

- Earth give rises to Metal (土生金)
- Both are central to the generation of Qi
- Both are critical to the movement of water

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### 肺金與脾土的關係

- 土生金
- 肺主氣、脾生化氣血
- 在氣的固攝、防禦、推動功能有協同作用
- 在水液的代謝有協同作用

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## Relationship between Liver and Spleen

- Wood parts Earth (木克土)
- Liver's rising energy is critical to Spleen's function
- Spleen generates blood that is stored in Liver



## 肝木與脾土的關係

- 木克土
- 脾的運化和升清功能依賴肝的條達
- 脾生血、肝藏血。肝木的柔和依賴脾的氣血生化



## Relationship between Kidney and Spleen

- Earth dams Water (土克水)
- Both are critical to the water metabolism
- Kidney stores postnatal essence generated by Spleen



## 腎水與脾土的關係

- 土克水
- 腎主水而脾的運化功能影響水液代謝
- 腎藏精依賴脾吸收水穀精微、生化氣血



## Earth vs. Water

- Earth has a relatively upward function
- Water is mostly downward and condensing
- Earth dislike Water



## 水與土的關係

- 土克水
- 土承載而水沈下
- 水過多也可乘木




## TCM Pathology

中醫病理學




### TCM's view of disease

- Disease happens when the harmony and balance of the body is compromised.
- Can either be a result of a strong external force
- or an internal weakness



### 中醫疾病觀

- 身體內部或外在環境失去了平衡
- 可因為邪實
- 可因為正虛
- 可因為不協調



### Common causes of diseases

- External causes: six climatic factors
  - Wind, Cold, Summer-heat, Dampness, Dryness, Heat
- Internal causes: seven emotional impairments
  - Joy, Anger, Depression, Contemplation, Grief, Fear, Surprise
- Other causes: diet, eating habit, work/rest, phlegm, blood stasis, injuries, infections, etc




### 常見病因

- 外因：外感六氣
  - 風、寒、暑、濕、燥、火
  - 疫、癘、毒
- 內因：七情
  - 喜、怒、憂、思、悲、恐、驚
- 不內外因：饑飽、勞逸、外傷、等等



### Common Pathogenic Factors of Digestion

- External Climatic Factors
- Emotional Factors
- Overeating/Undereating
- Food Preference
- Overactive/Underactive



### 與消化有關的病因

- 外感六氣
- 七情
- 過饑 / 過飽
- 偏食
- 過勞 / 過逸



### Common Digestive Pathological Patterns

#### Excessive Patterns

- Spleen trapped by coldness and/or dampness
- Spleen soaked in damp-heat
  - Damp-heat down-flow
- Food Indigestion
- Spleen/Stomach Fire



### 常見的脾胃病證


- 實證
  - 寒 / 濕困脾
  - 脾胃濕熱
  - 飲食阻滯
  - 胃火旺盛



### Common Digestive Pathological Patterns


#### Deficiency Patterns

- Spleen Qi deficiency
  - deficiency induced dampness or phlegm
- Spleen Yang deficiency
- Middle Qi sagging
- Spleen Not-upholding Blood



### 常見的脾胃病證


- 虛證
  - 脾氣虛 / 中氣不足
  - 脾陽虛
  - 氣虛下陷
  - 胃陰虛



### Common Digestive Pathological Patterns

#### Two Organ Patterns

- Liver Spleen Imbalance
  - Liver-fire attacks Spleen
  - Liver overpowers Spleen
- Heart Spleen Blood Deficiency
- Spleen Lung Qi Deficiency



## 常見的脾胃病證

- 兩藏同病
  - 肝脾不和
  - 肝火犯胃
  - 肝木乘土
  - 心脾兩虛
- 脾肺氣虛、脾腎兩虛



## Next time

- **The role of nutrition and food therapy in TCM**
- Problems in modern diet and how to plan for ideal diet
- Common conditions and food therapy
- Discussion of select foods

