TCM and Cardiovascular Health

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Common illnesses in Singapore among the middle-aged and above

- **Coronary Heart Disease**
- **High Blood Pressure**
- Diabetes
- Cancer
- Gastro-intestinal disorders: inflammation and ulcers, dyspepsia, bloating, diarrhoea, irritable bowel syndrome, constipation
- Insomnia
- Depression
Epidemiology of Cardiovascular Diseases (CVDs)

According to the World Health Organization (WHO)

- CVDs is the number one cause of death globally
- In 2008, 17.3 million people died from CVDs, accounting of 30% of the global deaths. Amongst which, an estimated 7.3 million were due to coronary heart disease and 6.2 million were due to strokes
- Projected that the number of deaths due to CVDs will increase to 23.3 million by 2030
CVDs in Singapore

• 15 people die from cardiovascular disease (heart disease and stroke) daily.

• In 2011, CVDs accounted for 30.4% of all deaths which means 1 out of 3 deaths in Singapore is due to heart disease or stroke.

Source: Singapore Heart Foundation
What is cardiovascular diseases (CVD)?

A class of disease that involves the heart or blood vessels

• Coronary heart disease
• Hypertension (High Blood Pressure)
• Cerebrovascular disease - stroke
• Congenital heart disease
• Inflammatory heart disease
• Cardiac arrhythmias – abnormalities of heart rhythms
Coronary heart disease (CHD)

- The narrowing of small blood vessels which supply nutrients and oxygen to the heart
- Caused by poor diet, inadequate exercise and genetic factors
- Hardening of the arteries resulting from the building up of plaque (fatty substance) in the arterial walls, resulting in narrowing and reduced blood flow
- These deposits accumulate with ageing
Narrowing of the coronary blood vessels

Chest pain (angina)

Death of the heart muscles due to lack of blood following cardiac arrest

The severity of the pain varies from individual to individual. May accompany with symptoms such as shortness of breath, weakness and fatigue. In the event that the vessel is blocked due to severe narrowing or a clot, this results in cardiac arrest.
Risk factors of CHD, Hypertension and Strokes

- High cholesterol levels
- Diet that are high in fats
- Lack of exercise
- Stress
- Environmental pollution (eg exhaust fumes)
- Higher incidence rate in men who are in late forties; incidence rate for women increases after menopause due to hormonal changes
Campbell (Cornell Medical School); Esselstyn (formerly at Cleveland Clinic)
“The China Study”  
(Campbell 2004)

• 20-year epidemiological study of major illnesses (cancer, heart disease, strokes and diabetes)

• Conclusion: animal proteins (including seafood and milk) the major factor behind these diseases

• Need not be 100% vegetarian – a low percentage of animal proteins in the diet could achieve a large part of the benefits
Reversing Heart Disease with diet
(Esselstyn)

• Low fat diet
• Plant-based diet
• Some cases may need to take statins concurrently
• Not only prevention, but reversals of advanced coronary heart disease has been found with diet alone, even in cases that did not respond to conventional therapies
Reversing heart blockage with plant-based diet

Coronary angiograms of the distal left anterior descending artery before and after 32 months of a plant-based diet without cholesterol-reducing medication

Source: Esselstyn, CB  *Prevent and Reverse Heart Disease*, 2007
TCM view of CHD

Two main common underlying syndromes of CHDs

• **Blood stasis**
  – Manifested as impediments to the flow of blood and *qi*
  – Plaques is seen as a form of stasis in TCM

• **Qi deficiency (weakness of qi)**
  – “Qi is the marshal of blood, blood is the mother of qi”
  – Qi is the principal driving force of the flow of blood. Weak qi will result in poor circulation of blood
Prevention of Coronary Heart Disease

• **Prevention** is by regular exercise and a diet rich in fibre, low in saturated and trans fats, and fresh fruit and vegetable to promote endothelial health. Recent studies show that pomegranate (石榴) juice improves arterial health. Lowering of cholesterol can also help, although its importance may have been over-emphasized compared to other dietary factors.

• **Chinese herbs** that help coronary heart disease are:
  – a) for blood stasis - *danshen* 丹参, *shanzha* 山楂, *hongqumi* 红曲米 (red yeast rice), *chuanxiong* 川芎;
• Have regular medical check ups on cholesterol and Lipoprotein (a) levels

• Consult a cardiologist if you have symptoms like chest pain on exertion or pain in the jaw radiating to the left arm, or abdominal pain with sweating
High Blood Pressure

• Severe cases should be treated with Western drugs to bring pressure to safe levels (risk of stroke). Number one risk factor for stroke

• Mild cases can be treated with TCM with change of diet and lifestyle and herbal medications like *tianmagouteng yin* 天麻钩藤饮

• Certain foods and herbs can help alleviate blood pressure (see later)
### Strokes 中风

<table>
<thead>
<tr>
<th>Ischemic Stroke</th>
<th>Hemorrhagic Stroke</th>
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<tbody>
<tr>
<td>Impeded blood flow to a part of the brain caused by a clot lodged in one or more blood vessels in the brain</td>
<td>Occurs when a blood vessel in the brain bursts and blood leaks into the brain</td>
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**Risk factors:**
- Hypertension, smoking, excessive cholesterol levels, diabetes, genetic factors and irregular heart rhythm in the form of atrial fibrillation
- Powerful blood thinner drugs like warfarin can also increase the risk of hemorrhage

**Risk factors:**
- Hypertension, obesity, smoking, excessive alcohol consumption, stress (causing a spike in blood pressure)
- Powerful blood thinner drugs like warfarin can also increase the risk of hemorrhage
TCM view of Hypertension & Strokes

• TCM often associates emotions with illnesses eg. anger damages *gan* (liver 肝) leading to the *hyperactivity of liver yang* 肝阳上亢, which is the more common syndrome observed in hypertensive patients.

• TCM regards *liver wind* (肝风) as the principal internal pathogen for stroke
Rehabilitation from stroke

- Stroke patients who are in the recovery phase usually have *qi deficiency*, which could further retard the blood flow.

- Acupuncture, *qigong* and *taiji* can help to improve the level and flow of qi which are beneficial for the recovery of the motor skills and the overall functioning of the body.

- Common acupoints for post-stroke rehabilitation include *taichong* 太冲, *hegu* 合谷, *renzhong* 人中, *baihui* 百会 etc.

- Physiotherapy and counselling sessions (cultivate positive emotions) are also important for recovery from stroke.
TCM’s complementary role in managing cardiovascular diseases

• Through the use of herbs, qigong, taiji and acupuncture, TCM can work hand in hand with Western medicine to slow down the progression of cardiovascular diseases.

• Healthy lifestyles and emotions, and appropriate diet can greatly increase the efficacy of both Western medicine and TCM treatments.

• Yearly health checks (especially for people who are 40 years and above) can detect early signs of the disease and precautionary steps can be taken.

• Health checks using TCM diagnostic methods can detect sub-clinical conditions (syndromes) 亚健康 and TCM treatments to restore balance can help retard progression of disease.
Chinese herbs and foods that are useful for preventing or slowing the progression of cardiovascular diseases
Herbs for blood flow

• Generally, these herbs have the actions of “livening” the blood and removing stasis (活血化瘀)

• Research have suggested that danshen, shanzha and gegen 葛根 have the function of dilating the coronary arteries, which can be used in treating mild cases of coronary heart disease.
Herbs for promoting blood flow and removing stasis (活血化瘀)

**Danshen 丹参**
The main herb used in the herbal formulation *fufang danshen diwan* (复方丹参滴丸).

**Chuanxiong 川芎**
*Suxiao jiuxin wan* (速效救心丸) uses chuanxiong 川芎 and bing pian 冰片.

**Gegeng 葛根**
*(Kudzuvine Root)*
Its extract is used in the proprietary medication *yufeng ningxin pian* (俞风宁心片) for the relief of mild angina pains.

Clinical studies indicate that they can dilate coronary arteries and increase blood perfusion to the heart.
Herbs for reducing cholesterol level

Hongqumi 红曲米 (Red yeast rice)

Shanzha 山楂 (Hawthorn berry)

Jiaogulan 绞股蓝

Juemingzi 决明子 (Cassia seeds)

Hawthorn berries also have the action of dilating coronary arteries. German scientists have used extracts from hawthorn leaves and flowers in a dietary supplement called *Crataegu* for a similar medicinal effect of reducing blood stasis.

The mechanism of red yeast rice to reduce cholesterol level is similar to that of synthetic statins like lipitor.
**Herbs for improving qi**

- **Huangqi 黄芪 (Astragalus)**
- **Xiyangshen 西洋参 (American Ginseng)**
- **Zhigancao 炙甘草 (Liquorice)**
- **Huaishan 山药 (Wild yam)**
- **Renshen 人参 (Ginseng)**

All these herbs have the action of restoring the body’s *qi* level. Most of these herbs are also good tonics for the spleen.

Adequate *qi* will promote a better blood flow and reduce blood stasis.
Herbs for lowering blood pressure

These are the two main herbs used in the prescription *tianma gouteng yin* 天麻钩藤饮 for treating hypertension and managing the initial period after a stroke.

Both herbs have the action of calming liver yang and expel liver wind. Hence, they are also often used to treat headaches and dizziness resulted from hyperactivity of liver yang.
Other herbal prescriptions

• Other common herbal prescriptions used in the treating of coronary heart disease include *yang xin tang* (养心汤), *xuefu zhuyu tang* (血府逐瘀汤) and *gualou xiebai baijiu tang* (瓜蒌薤白白酒汤).

• *Buyang huanwu tang* 补阳还五汤, with *huangqi* 黄芪 as the principal herb, is often used to treat stroke patients who are in the recovery phase.
Food that are beneficial for cardiovascular health

• Food that can help to lower cholesterol levels include black fungus, celery, walnuts, cereals with high fibre content (e.g. rye bread, whole grain wheat). Oily fish (salmon, tuna) can increase good cholesterol (HDL) level.

• Food which help to control blood pressure within the healthy range are beet juice, spinach, lettuce, cabbage, carrots, bananas, raisins, potatoes, raisins and melons.
Thank you

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