Cardiovascular Health and Disease and Natural Medicine
Metabolic Syndrome, Obesity, Diabetes

Presented by
Dr. Christopher Hobbs, Ph.D., L.Ac., A.H.G.
Cardiovascular Herbs

Lily-of-the-Valley
Cardiovascular System
According to TCM

- Rules the blood and vessels
- Also main organ system involved with the higher functions of the nervous system
- Stores the “shen” or spirit
- The tongue is the “Sprout” of the heart; the tip reflects health of heart for tongue diagnosis
- Reflects in the “brilliance of the face”

- The end of the nose also reflects heart health
- Major syndromes:
  - Heart Yin deficiency
  - Heart fire (false heat associated with Ht Yin def.)
  - Deficient Heart Blood
  - Deficient Heart Qi
  - Mucus “misting” the Heart
What does your tongue look like? Possible Syndromes and Symptoms, According to TCM

**NORMAL**
- Thin white coating
- Teeth marks
- Pale tongue with a few red spots

**QI DEFICIENCY**
- Fatigue, Poor appetite, Spontaneous sweating, Shortness of breath, Over-thinking and worrying...

**HEAT**
- Feel hot, Sweat easily, Thirsty, Constipated, Irritable and bad tempered, Skin problems...

**DAMP RETENTION**
- Bloating, Fullness in chest and abdomen, Feel heavy and lethargic...

**BLOOD STASIS**
- Cold limbs, Varicose veins, Painful legs, Headaches, Chest pain, Liver spots, Lack of skin lustre...

**QI STAGNATION**
- Stressed, Tendency to be depressed and upset, Unstable emotional state, PMT...

**DAMP HEAT**
- Skin problems, Urinary infections, Clammy skin, Anxious and uncomfortable...

**YANG DEFICIENCY**
- Feel cold easily, Always need warmth, Pale complexion, Back pain, Tendency to panic, Emotionally low, Impotence, Infertility...

**YIN DEFICIENCY**
- Hot Flushes, Sweat at night, Insomnia, Irritable, Ringing in the ears, Menopause/irregular menstruation...

**BLOOD DEFICIENCY**
- Dizziness, Fatigue, Palpitations, Poor concentration and memory, Insomnia, Women’s problems...

Diagram by - AcuMedic Ltd.
Heart Yin Deficiency
Heart Fire

- The red body colour indicates Heat and the slight purple colour indicates that there is some Blood stasis. The red tip indicates Heart-Fire and the swelling of the tip and its curling up confirm and reinforce this diagnosis.
Heart Blood Stasis

- Purple tongue involving tip—heart blood stasis
Blood deficiency

- Pale tongue, blood deficiency
• Heart Yin deficiency (and Heart Blood def.)
  − Both associated with lack of blood flow to the heart
  − Symptoms: heart palpitations, disturbed sleep, anxiousness, forgetfulness
  − Ht blood—pale tongue; Ht Yin—red tongue, no coating
  − Could underlie many kinds of heart and hormonal diseases (congestive heart failure, thyroid imbalances)
  − Main herbs:
    • Heart Yin tonics: American ginseng, zizyphus seed (*Zizyphus spinosa*); formula: tian wang bu xin dan
    • Heart Blood tonics: strengthen digestion to build blood (Spleen Qi tonics)
Heart Yin Deficiency

- Similar to Blood Deficiency but with more anxiety and restlessness, palpitations, insomnia, dream disturbed sleep, easily startled, poor memory, fidgeting, malar flush, night sweats, heat in the 5 palms, dry mouth
- Tongue Diagnosis - red tip, peeled
- Pulse: floating, empty or Thin, fast
TCM Heart Imbalance Patterns

• Heart Qi deficiency (what nourishes fire?: wood)
  – Wood = Liver yin deficiency (ligustrum, lycii berries)
  – Causative factors: smoking, cardiovascular disease
  – Symptoms: weak, small pulse, lethargy, shortness of breath (associate with congestive heart failure), loss of alertness, ankle swelling
  – Associated western diseases: congestive heart failure, coronary heart disease, depression, neuroses
  – Main herbs: *Selenicereus grandiflorus* (cactus), spreading dogbane (*Apocynum androsaemifolium*), Hawthorn flowers, leaves (*Crataegus* spp.)
Cardiovascular conditions & Possible Patterns

• Angina
  – Heart Qi Deficiency, Heart Yang Deficiency, Phlegm Stagnation, Blood Stagnation

• Arrhythmia (Palpitations)
  – Heart Qi Deficiency, Heart Yang Deficiency, Spleen Qi Deficiency, Spleen Yang Deficiency, Kidney Yang Deficiency, Kidney Yin Deficiency, Liver Yin Deficiency, Blood Stagnation

• Coronary Artery Disease
  – Heart Qi Deficiency, Heart Yang Deficiency, Lung Qi Deficiency, Lung Yin Deficiency, Stomach Yin Deficiency, Heart Yang Collapse, Stomach Qi Deficiency, Blood Stagnation

• Hyperthyroidism
  – Liver Qi Stagnation, Liver Fire, Liver Yang Rising, Kidney Yin Deficiency, Liver Yin Deficiency, Phlegm Stagnation

• Myocardial Infarction
  – Heart Qi Deficiency, Blood Stagnation

• Palpitations
  – Heart Qi Deficiency, Heart Yang Deficiency, Blood Stagnation
Cardiovascular Health

• Dietary factors
  – Soluble and insoluble fiber (whole grains, beans)
  – Antioxidant vitamins, minerals and other factors from vegetables, fruits, seeds, nuts, whole grains, beans
  – Special foods: garlic, onions
  – Avoid foods with added processed fat and sugar
  – Refined sugar may play more of a role than fat in the development of heart disease
  – Microinflammation: pathogenic heat is promoted with the use of metabolic stimulants such as caffeine, red meat, refined sugar (Supersize Me!)
Cardiovascular Disease Topics

- Arrhythmias (PVCs, PACs, tachycardia, bradycardia)
- Hyperlipidemia
- Hypertension
- Congestive heart failure
- Coronary heart disease
  - Intermittent claudication
  - Stroke, heart attack
- Veins, inflammation, varicosities
- Clotting disorders
U.S. deaths due to diseases of the heart (1900-2011)

Source: National Center for Health Statistics
Heart Disease Death Rates, 2011-2013
Men, Ages 35+, by County

Rates are spatially smoothed to enhance the stability of rates in counties with small populations.

Data Source:
National Vital Statistics System
National Center for Health Statistics
Risk of Developing Heart Disease in the Next 10 Years
Among men ages 30-74

Source: Yang et al., American Journal of Preventive Medicine, 2014
Leading Causes of Death for Women

Heart Disease 356,014
Stroke 100,050
Lung Cancer 67,542
C.O.P.D. 64,103
Breast Cancer 41,514

Based on 2002 data
Global Map Risk Factors of Cardiovascular Diseases

Figure 26: Ranking of 10 selected risk factors of cause of death (2).

- Indoor smoke from solid fuels
- Childhood underweight
- Alcohol use
- Unsafe sex
- High cholesterol
- Overweight and obesity
- Physical inactivity
- High blood glucose
- Tobacco
- Raised blood pressure

Attributable deaths due to selected risk factors (in thousands)
The MRFIT study

- Screened 362,000 middle aged males
  (as a selection for the MRFIT intervention study, see later)

- Followed them for 6 years

The graph shows the relationship between cholesterol levels (Cholesterol mg/dl) and deaths per thousand per year, categorized into CHD (green line) and all causes (purple line). The graph indicates a decrease in deaths per thousand as cholesterol levels decrease, reaching a minimum before increasing again.
Epidemiological studies have shown a log-linear relationship between LDL-C levels and relative CHD risk\(^7\).

Interventional studies have shown a linear relationship between LDL-C levels and major cardiovascular events\(^8\).
Risk Factors

Circulation. 2008; 117:3031-3038
Cardiovascular Diseases
Diagnoses, symptoms, treatments

- Arrhythmias
- Blood lipid abnormalities
- Hypertension
- Congestive heart failure
- Angina
- Abnormal clotting
- Role of inflammation
Arrythmias

- PACs, PVCs (pre-auricular and pre-ventricular contractions)
  - Can cause palpitations that are not dangerous to health, but can be worrisome to people
  - Frequent or rare
  - Cause: sympathomimetics (caffeine), stress, high sympathetic tone, inhaling fine dust particles, refined sugar (metabolic stimulant), heart muscle abnormalities such as previous mild heart attacks
  - Treatment: eliminate high glycemic index foods, reduce stress, eliminate sympathomimetics
Arrythmias II

- Tachycardia: racing heartbeat, over 100 b.p.m.
  - Ventricular tachycardia often not treated; other kinds can be life-threatening
  - Contributing factors: heart attack damaging pacemaker sites in heart muscle, stress, sympathomimetics, metabolic stimulants, thyroid imbalances (consider Lycopus)

- Bradycardia: sinus bradycardia (resting rates < 60 are often not pathologic)
  - Cardiovascular fitness, young people, genetic variation (Convalaria)
Arrhythmias: Treatment

- Calm thyroid activity
  - Bugleweed
  - Motherwort
  - Blue vervain
  - Lemon balm

- Cardiac glycosides
  - Dogbane

- Blood-moving herbs
  - Motherwort, Chinese red sage

- Cardiac regulators--positive chronotropics
  - Hawthorn (flowers, leaves)
  - Scotch broom (tops), for tachycardia
Hyperlipidemia: Testing

- Total cholesterol
- HDL/LDL ratio
- Triglycerides
- Other tests: This panel contains the following tests: VLDL, Triglyceride, Lipoprotein(a), Apolipoprotein B, Homocysteine
## Cholesterol Levels

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<th>Desirable</th>
<th>Needs Attention</th>
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<td>&gt; 200</td>
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<td></td>
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<tr>
<td>LDL-Cholesterol</td>
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<td></td>
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<td>&gt; 160</td>
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<tr>
<td>LDL: HDL</td>
<td>&lt; 3</td>
<td>&gt; 3.5</td>
</tr>
</tbody>
</table>
Triglycerides

• Most common kind of fat in food, common risk factor for heart disease in the middle-aged
• Less than 150 is desirable
• Said to be related to insulin levels and intake of high-glycemic index foods
• Lowering HGI foods can lower triglycerides
• Alcohol consumption can increase levels
• Always recommend: no added sugars in the diet
Dietary Sugars and Cardiovascular Risk Supportive Meta-Analysis

- Systematic review of 40 trials, either parallel or cross-over design
- 39 reported lipid outcomes
- Data was pooled and checked for stringent criteria
- Higher compared with lower sugar intakes significantly raised triglyceride concentrations
- Conclusion: Dietary sugars influence blood pressure and serum lipids. The relation is independent of effects of sugars on body weight

Exponential increase of death from CVD with increase of added sugar (HR = hazard ratio) source: NHANES

Source: Morenga et al., 2014
My own triglyceride story

After 7 years of graduate school

Cut all added sugar

< 150 desirable
Sugar—How Sweet it is(n’t)

- Added sugar!
- Lack of exercise = hyperlipidemia, insulin pathway imbalances, obesity, diabetes, CVD
Coming to our senses?
(consumption of sugar/person/year, in pounds)
Hyperlipidemia
Risk Factors

- Diet rich in saturated fat, trans fat, dietary cholesterol, and excessive calories, and especially added sugar leading to obesity
- Lack of exercise
- Hypothyroidism (low thyroid function)
- Chronic liver disease (mainly primary biliary cirrhosis)
- Cholestasis (stopped or suppressed flow of bile)
- Cushing’s syndrome (high corticosteroid levels)
- Oral contraceptive use (birth control pills)
- Anorexia nervosa (an eating disorder)
- Protease inhibitor use (drugs for the treatment of HIV infection)
Hyperlipidemia
Herbal Treatments

• Garlic: 1 clove 2 x day (crush first)
• Red yeast: Monascus produces metabolites that inhibit the enzyme HMG-CoA reductase, the rate limiting step in cholesterol biosynthesis in the liver; dose, 1.2 g extract
• Study: At the end of 8 weeks, serum cholesterol levels were reduced by an average of 23%, triglycerides 36.5%, LDL cholesterol 28.5%, HDL-cholesterol levels were increased by 19.6%
• Pleurotus ostreatus (oyster mushroom) powder in food (also contains HMG-CoA reductase inhibitors similar to Lovastatin; take about 1 tablespoon of the powder, 2 x daily (also shiitake)
• Artichoke leaf extract (standardized) increases bile flow and reduces cholesterol levels; dose: 640 mg 3 times daily for 12 weeks
• Other herbs: alfalfa powder, soluble fiber products like pectin, flax, psyllium
Hypercholesterolemia—proven remedies

• Red rice yeast—proven clinical effectiveness
• Guggul resin—studies equivocal; 2009 study showed positive results for reducing total and HDL-C, but no effect for TC/HDL, triglycerides, or LDL (Nohr, 2009)
• Garlic—meta-analysis of 29 studies showed modest reductions of TC and TAG, but not LDL or HDL (Reinhart et al, 2009)
• Artichoke leaf—meta-analysis of 3 studies that met criteria showed moderate reductions (highest of 10% in TC over placebo; Wider et al, 2009)
Materia Medica
Hypocholesteroleemics

- Garlic, shiitake
- Oyster mushroom, shiitake
- Red yeast

Oyster mushroom
Red Rice Yeast

- Patient volunteers with hyperlipidemia (n=85, 12 weeks) in a RDBPC study. Subjects received either 2.4 grams per day of red yeast rice or placebo. Total cholesterol and LDL cholesterol was significantly reduced in the treatment arm compared to control after 8 and 12 weeks; no reported side effects over placebo (Heber et al, 1999).
- Reported adverse events from all studies:
  - Adverse events include stomachache, heartburn, dizziness and flatulence

- *Monascus purpureus*, grown on rice
- major active constituent, monacolin K, is the same as lovastatin
- clinical trials have demonstrated effectiveness of red yeast rice preparations in reducing cholesterol levels in hyperlipidemic patients
In TCM, pain is always associated with stagnant blood with increased pooling of wastes, swelling, edema

- Move the blood with external application of:
  - Essential oils of rosemary, with cayenne, ginger compresses
- Internally, take blood-moving herbs:
  - Ginger, cayenne, prickly ash bark
Hyperlipidemia
Dietary Treatment

• High fiber, low animal fat and refined sugar diet
• Garlic: 1 clove 2 x day (crush first)
• Artichokes
• Fiber sources
  – Beans!
  – Mucilaginous seeds (flax, psyllium)
  – Many fruits
  – Whole grains
  – **Mueseli (not cooked!)
• Making mueseli at home
  – Oat, barley, rye, other flakes (make your own—Marga Mulino manual grain roller/flaker)
  – Oat, wheat bran or germ (keep refrigerated)
  – Add fruit, chopped nuts; yogurt (optional)
  – Soak with fresh apple juice, almond milk, goat milk, etc. (50-50 with H2O)
The Importance of Soluble Fiber

- High carbohydrate, high fiber diet lowers TC, LDL-C
- Soluble fibres known to lower LDL-C(15) include pectins from apples and citrus fruits, b-glucan from oats and barley, and fibres from flaxseed and psyllium
- Soluble oat fibre is mainly composed of b-glucan
- 4–6 g of this functional ingredient may significantly lower total cholesterol and LDL-C in the range of 8–12%

- Best soluble fiber foods
  - Beans
  - Oats
  - Oat bran
  - Flax
  - Shiitake, oyster mushroom
  - Fruits with pectins (berries, plums, etc.)
Hypertension
Risk Factors

• Heredity
• Race (African Americans are more likely to have high blood pressure than Caucasians are.)
• Male sex (Men have a greater risk of high blood pressure than women until age 55, when their respective risks are similar. At age 75 and older, women are more likely to develop high blood pressure than men)
• Age (Blood pressure tends to increase with age, and older people are more likely to have high blood pressure.)
• Atherosclerosis
• Obesity and overweight
• Alcohol consumption, sodium (salt) sensitivity
• Sedentary life style
• Salt to potassium intake
Hypertension Drug Tx

- Diuretics decrease fluid
  - Side effects: K loss, decreased sexual function
- Beta-blockers relax heart, blood vessels
  - Side effects: nausea, bronchial constriction
- Calcium channel blockers relax artery walls
  - SE: headaches, constipation, ankle swelling
- ACE-inhibitors reduces angiotensin
  - SE: cough, increase K levels, skin rashes
- Reserpine is natural compound from *Rauwolfia*
  - Higher doses cause depression
Hypertension
Herbal Treatments

- Shepherd’s purse
  - 2-3 ml fresh tincture t.i.d.
- Mistletoe
  - 1 ml tincture of leaves & twigs
- Hawthorn. Leaf and flower tinctures as a base
  - 2-3 ml t.i.d.
- Reserpine—0.05 mg
- Garlic—studies and meta-analyses are equivocal, but some show garlic is superior to placebo (Ried et al, 2008)
Hawthorn for hypertension

- Hawthorn for CHF
  - Exerts mild BP-lowering effects
  - Dilates coronary vessels
  - Inhibits ACE
  - Inotropic
  - Mild diuretic activity
  - RDBPC study (n=36), resting diastolic BP only was significantly reduced (AMR, 2010)
  - Mild clinical effect (others)
Rauwolfia

- New Cochrane meta-analysis (Shamon & Perez, 2009)
- Reserpine, a root extract of the naturally occurring plant Rauwolfia serpentina, was used in the past as first-line therapy for reducing blood pressure
- Now it is used mainly as a second line agent
- Reserpine is effective in reducing SBP roughly to the same degree as other first-line antihypertensive drugs (0.5 mg of reserpine)
- Higher doses were initially reported to cause many side effects (Doyle 1954), but doses as low as 0.05 mg daily may be effective when combined with a diuretic (VACS 1982)
Hypertension—
Dietary Guidelines

• DASH Diet (Dietary Approaches to Stop Hypertension)
  – low sodium, saturated fat, cholesterol, and total fat
  – abundant in calcium, magnesium, fruits, vegetables
  – fat-free or low-fat dairy products
  – whole grain products, fish, poultry, and nuts

• Salt/potassium—studies emphasize importance
  – Salt is added to most restaurant, processed foods (often hidden)
  – Use sea salt, earth salt, or sea vegetable powders to avoid taking in only sodium
  – Increase dark green leafy vegetables to increase potassium intake
  – Kale, collards, mustard greens, broccoli, other Brassica vegetables
  – Less spinach, beet greens, chard (minerals less effectively absorbed)
  – Other foods high in potassium—avocados, dried apricots, banana, figs!, carrot juice, prune juice, melon
Calcium + magnesium supplementation
  - Good studies on calcium (modest reduction, but useful)

CoQ-10—meta analysis on 12 trials
  - “potential to lower systolic blood pressure by up to 17 mm Hg and diastolic blood pressure by up to 10 mm Hg without significant side effects” (Rosenfeldt et al, 2007)

L-Arginine (precursor to NO)
  - modest decrease in blood pressure in both normotensive individuals and hypertensive patients (Chen et al, 2009, review)
Hypertension—Dietary Supplements 2

- **Green coffee beans** (chlorogenic acid—CGA)
  - CGA is high in fruits and vegetables; in vivo and human studies positive (140 mg/day)
- **Fermented milk**
  - Calcium, magnesium
  - Anti-hypertensive peptides (valine-proline-proline—VPP, isoleucine-proline-proline, IPP)
PUFA (fish oil, omega-3s)

• A meta-analysis of 17 controlled clinical trials of fish oil or omega-3 PUFA supplementation:
  – A diet supplemented with a relatively high dose of omega-3 PUFA, generally >3 g/day, could lead to clinically relevant reduction in blood pressure in individuals with untreated hypertension (Kawasaki et al, 200)
  – low dose of <3 g/day, fish oil or omega-3 PUFA was not effective (Chen et al, 2009)

• Eicosapentaenoic acid (EPA) and docosahexaenoic acid (DHA) have most research

• Other benefits of EPA, DHA

• EPA, DHA supplements made sustainably from sardine, anchovy oils
Congestive Heart Failure

Etiology

- Hypertension
- Coronary artery disease (always present)
- Excessive alcohol consumption
- Smoking
- Myocardial infarction (heart attack)
- Obesity
Congestive Heart Failure

Symptoms

- Fatigue
- Shortness of breath
- Ankle swelling
- Need oxygen
- “tripoding”
- Propped in bed
• Lifestyle recommendations
  – Strictly limit salt; increase K
  – Reduce weight to ideal range
  – Slowly increase exercise to highly aerobic
  – Healthy diet
Congestive Heart Failure
Common Drug Tx

- A.C.E. or angiotensin-converting enzyme inhibitors
  - reduce cardiac loading through vasodilation
- Beta blockers relax blood vessels and reduce heart workload by blocking epinephrine binding to beta receptors of the heart
  - empirical benefits
- Diuretics reduce fluid load
  - Lasix most commonly prescribed
- Digoxin not as much used today (safety)
  - improves symptoms short-term, but no survival benefits
Congestive Heart Failure
Herbal Treatments

- Night-blooming cactus
- Scotch broom
- *Crataegus* spp. (Hawthorn)
- Lily-of-the-valley
- Co-enzyme Q10
- Herbal aquaretics
  - Juniper, uva-ursi, dandelion leaf
- Smooth muscle relaxants
  - California poppy, passionflower
- Peripheral vasodilators
  - Yarrow, blue vervain
- Hypotensives
  - Mistletoe, shepherd’s purse
Materia Medica
Cardiac stimulants

- Apocynum androsaemifolium (Dogbane)
- Convalaria majalis (Lily-of-the-valley)
- Selenicereus grandiflorus (Night-blooming cactus)

Lily-of-the-valley
CHF—more herbal notes

- Scotch broom (Cytisus scoparius) flowering tops
  - 2.5 g/180 mL water, infusion; 1 tbsp, t.i.d.
- Convalaria—German preparations, bradycardia. Convastabil (Klein) combines Convalaria +
- Crataegus; useful as a cardiac tonic
- “Cactus”—*Selenicereus grandiflorus*
  - Cardiotonic amines, hordenine (“cactine”)
    (Wagner, Grevel, 1982)
  - Eclectic remedy with scant science
- Hawthorn leaves and flowers (next slide)
Hawthorn for CHF

• Several studies show benefit
  – Large multi-center observational study; 450 mg (18.75% OPC) b.i.d. for 24 weeks
  – Significantly improved exercise tolerance and dyspnea, fatigue, BP, resting pulse in 1,011 patients with NYHA-II cardiac insufficiency (AMR, 2010)
  – RPC (n=209, NYHA-III); 1,00 mg extract daily for 16 weeks; statistically-significant improvement in maximum tolerated workload during exercise
  – SPICE trial (RDBPC multicenter study); n=2,681 with NYHA-II or III CHF; (900 mg daily); reduction in a subset in patients with LV ejection fraction of 30% of cardiac mortality and sudden death, 40%
Coronary Heart Disease
Etiology

- Buildup of plaque and hardening of the arteries are associated with chronic “microinflammation” of long-standing.
- Cardiovascular disease is an autoimmune/chronic inflammatory disorder of the blood vessels.
- According to TCM: “pathogenic heat in the blood”

- Dietary factors: added processed fats and sugars in food
- Consumption of sympathomimetics
- Chronic stress, high sympathetic tone, increased metabolic rate with pathogenic heat, either false or true heat
- Lack of exercise, obesity
- Genetic predisposition
Chronic Inflammation is a Silent Public Health Crisis

Top Killers
1. Heart Disease
2. Cancer
3. Lung disease
4. Strokes
5. Accidents
6. Alzheimer’s disease
7. Diabetes
8. Flu and Pneumonia
9. Kidney Disease
10. Suicide
How to Diagnose Inflammation?

- How to identify pro-inflammatory markers to address the root of the problem early, before chronic disease states or pain take hold
- Common signs of inflammation:
  - Impotence (beginning vascular disease)
  - Memory changes/muddled thinking
  - Ringing in the ears
  - Swelling, pain, fatigue, myalgia
  - Chronically sore gums, gum disease, deep “pockets”
  - Sore joints, arthritis
  - Heart disease, lupus, liver disease, diabetes
Inflammation and Traditional Medicine

- Traditional Chinese Medicine (TCM)
  - Long history of understanding inflammation as root cause to disease
  - False & true heat
- Diet, Herbs, Acupuncture
- “Drain the heat”
- “Tonify”

- “True Heat”
  - Thick yellow coat
  - Full, fast pulse
  - Typically worse when young

- “False Heat”
  - “Peeled,” red tongue body
  - Little or no coat
  - Chronic condition
  - Worse when older
Most-Researched Herbs for Inflammation

- Turmeric (curcumin)
- Pineapple (bromelain)
- Papaya (papain)
- Frankincense (Boswellia)
- Hops (hops bitter acids)
- Buckeye (escin)
- Onions, apples, berries (quercetin)
- Anthocyanins (berries, etc.)
- Willow bark extract (salicin)
Coronary Heart Disease
Medical Tx

- Medications to control Hypertension, to lower cholesterol
- Blood-thinners to prevent clotting, stroke, and heart disease, such as coumadin; enzymes to dissolve clots
- Bypass surgery, heart transplant, artificial heart
- Stents, angioplasties
- Exercise and diet is irregularly stressed by physicians
- What passes for “prevention,” daily aspirin
Angioplasty, Bypass Statistics

- What’s better? Read a review here:
- In these reviews, angioplasty provides best results!
- 926,000 angioplasties were done in the United States in 1998. Of these 539,000 were percutaneous transluminal coronary angioplasty (PTCA or “Balloon angioplasty”)
- 594,000 men and 332,000 women had angioplasties
- 553,000 cardiac revascularizations (also known as coronary artery bypass graft or CABG operations) were done in the United States in 1998
- CABG was performed on 396,000 men and 158,000 women
Cardiovascular Disease
Herbal, Dietary Prevention

• Though not always popular, prevention works best
  – Garlic, onions
  – Keeping blood lipids balanced with a whole foods diet low in added fats and sugars
  – Daily use of antioxidant herbs such as hawthorn, ginkgo
  – Many other dietary supplements as detailed above
Materia Medica

Antianginals

- Ammi visnaga (Khella)
- Salvia miltiorrhiza (Chinese salvia)

Chinese Salvia
Clot Formation
Reduction of Heart Attack, Stroke

• Natto kinase (fermented soybeans)
• Aspirin or Salicin?
• Reduction of chronic inflammation with Nutriceuticals (curcumin, Boswellia, etc.)
Cardiovascular Disease
Herbal Tx II

- Herbs to balance blood lipids and reduce cholesterol
  - Fenugreek, alfalfa, ginger, myrrh, guggul

- Herbs to balance clotting
  - Garlic, alfalfa, dong quai, ginkgo, sweet clover

- Herbs to move blood
  - Dong quai, prickly ash, red Chinese sage, tien qi ginseng
Cardiovascular Disease
Herbal Tx III

- Other herbs to consider
  - Herbs to improve heart health: hawthorn, ginkgo
  - Other herbs to balance cholesterol, such as herbs high in soluble fibers: fenugreek, flax, psyllium, guar gum, oyster mushrooms
  - Yin tonic herbs to reduce false heat: American ginseng
  - Clear heat from lower Jiao: Yellow dock, Oregon grape root
  - Liver health herbs (liver processes cholesterol): fringetree bark, boldo
Veins
Inflammation, Varicosites

• Herbs to strengthen the veins
  – Butcher’s broom
  – Horse chestnut
  – Witch hazel
  – Lemon, citrus peel
Veins
Herbs to Reduce Inflammation

- Thrombophlebitis: formation of clots in an inflamed vein
  - Walking important
  - Homeopathic arnica
  - Sweet clover
  - Blood-movers, especially dong quai, cayenne
Materia Medica
Cardiac Tonics

- *Allium sativum* (Garlic)
- *Capsicum frutescens* (Cayenne)
- *Crataegus* spp. (Hawthorn)
- *Leonurus cardiaca* (Motherwort)
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Venous Tonics

• *Aesculus hippocastanum* (Horse chestnut)
• *Collinsonia canadensis* (Stoneroot)
• *Hamamelis virginiana* (Witch hazel)
• *Ruscus aculeatus* (Butcher’s broom)

Horse chestnut
Materia Medica
Cardiac Regulators

- *Apocynum androsaemifolium* (Dogbane)
- *Crataegus* spp. (Hawthorn)

Dogbane
Materia Medica
Cardiac sedatives

• *Cytisus scoparius* (Scotch broom)
  – Slows heartbeat for tachycardia
  – Diuretic action for “dropsy” or edema due to mild cardiac insufficiency

• *Veratrum* spp. (Hellabore)
  – Highly toxic
  – Native plant
  – For excess conditions with tachycardia, big pulse

Scotch Broom
End of Cardiovascular Show