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High Cholesterol and Dietetics, Part 2

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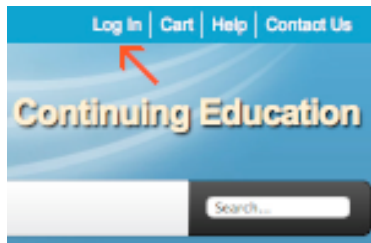
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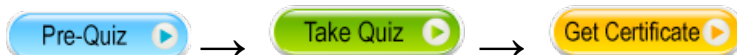
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High Cholesterol and Dietetics

A Three Part Series

Outlines of All Three Courses

High Cholesterol and Dietetics, Part One

This course covers the diagnosis of treatment of hyperlipidemia (high cholesterol and triglycerides) according to western biomedicine and presents the Chinese medicine theoretical foundations concerning hyperlipidemia including diagnostics and treatment principles. This course is approved for 6 acupuncturist continuing education credit hours.

Introduction

1. Hyperlipidemia in Western Medicine

1.1 Definition

1.2 Prevalence

1.3 Pathophysiology

1.4 Signs and Symptoms

1.5 Description of Lipoproteins

Characteristics of the Major Lipoprotein Classes

Characteristics of Lipoproteins:

1.6 Serum Lipid Levels

ATPIII Serum Lipid Level Classification (mg/dL):

1.7 Determining Risk

1.8 Therapeutic Options:

Effects of the major dyslipidemia drugs on serum lipid levels

1.9 Non-Mainstream Ideas about Cholesterol and Dyslipidemia

2. Hyperlipidemia in Chinese Medicine

2.1 Fundamentals of Dyslipidemia in Chinese Medicine

2.1.1 The Spleen and Dyslipidemia

Obstruction of Spleen Transportation is a Key Component in Dyslipidemia

Spleen Deficiency and Dyslipidemia in Modern Research

2.1.2 Liver and Dyslipidemia

Liver Qi Stagnation as a Factor in Dyslipidemia
Liver Qi Invading the Spleen
Liver Qi Deficiency as a Factor in Dyslipidemia
Liver Yin Deficiency and Deficiency Heat Scorching the Fluids as a Factor in Dyslipidemia

2.1.3 Kidney and Dyslipidemia

Kidney deficiency is a primary factor in the development of dyslipidemia
Kidney Yang Deficiency, Water Congealing and Becoming Phlegm
Kidney Yin Deficiency, Deficient Fire Scorching the Fluids
Kidney Essence Deficiency and Stagnation of Fat
Kidney Tonifying Medicinals and Dyslipidemia
Conclusion

Heart Section

High Cholesterol and Dietetics, Part Two

This course takes a detailed look at Chinese medicine dietetics and its relationship to the treatment of hyperlipidemia. Participants learn lifestyle changes important to reducing cholesterol and triglyceride levels according to Chinese Medicine principles. In addition, participants learn the Chinese medicinal properties of individual foods and their effects upon blood lipid levels. Also, participants learn how to apply Chinese Medicine lipid reducing food formulas to reduce cholesterol and triglyceride levels. This course is approved for 6 acupuncturist continuing education credit hours.

3. Prevention & Treatment of Dyslipidemia in Chinese Medicine

3.1 Lifestyle

3.1.1 Sleep Hygiene

3.1.2 Elimination

3.1.3 Dietary Habits

3.2 Food Therapy

3.2.1 Individual Foods

1. Fruits & Nuts

2. Vegetables, Grains, Tofu

3.2.2 Lipid-Reducing Food Formulas

- 1. Teas**
- 2. Conjee**
- 3. Soups**

High Cholesterol and Dietetics, Part Three

This course details the medicinal properties of Chinese herbs and their relationship to lowering serum lipid levels. Modern research is presented in addition to Chinese medicine theoretical principles. Individual herbs and herbal formulas are presented to make the clinical application of this material helpful to a licensed acupuncturist for the treatment of hyperlipidemia. Learn how to lower cholesterol and triglyceride levels with Chinese medicinal herbs. This course is approved for 13 acupuncturist continuing education credit hours.

3.3 Herbal Therapy

Introduction

3.3.1 Individual Medicinal Herbs

- 3.3.1.1 Transform Phlegm and Direct Turbidity Downward Medicinals**
- 3.3.1.2 Reduce and Guide Out, Direct Turbidity Downward Medicinals**
- 3.3.1.3 Transform Blood Stasis and Direct Turbidity Downward Medicinals**
- 3.3.1.4 Supplement the Liver and Direct Turbidity Downward Medicinals**
- 3.3.1.5 Clear, Drain, and Direct Turbidity Downward Medicinals**
- 3.3.1.6 Boost the Qi, Strengthen the Spleen, and Direct Turbidity Downward also**

3.3.2 Treatment Strategies and Herbal Formulas

3.3.2.1 Treatment of the Spleen

I. Strengthen the Spleen and Transform Damp

II. Regulate the Spleen and Transform Damp

3.3.2.2 Treatment of the Liver

I. Course the Liver and Strengthen the Spleen Method

II. Clear the Liver and Transform Phlegm Method

III. Course the Liver and Nourish the Blood Method

IV. Pacify the Liver, Extinguish Wind, Invigorate the Blood, and Transform Blood Stasis Method

V. Harmonize Shaoyang Method

3.3.2.3 Treatment of the Kidney

- I. Boost the Kidney, Drain Turbidity, and Transform Blood Stasis Method**
- II. Warm the Kidney, Drain Turbidity, and Transform Blood Stasis Method**
- III. Boost the Qi, Nourish the Yin, and Transform Blood Stasis Method**

3.3.2.4 Treatment of the Heart

- I. Boost the Qi and Invigorate the Blood Method**
- II. Free the Yang, Drain Turbidity, and Invigorate the Blood Method**

3.3.2.5 Treating Phlegm and Blood Stasis

- I. Invigorate the Blood and Transform Blood Stasis Method**

Comparison of Blood Invigorating Formulas

- I. Draining Dampness, Transforming and Expelling Phlegm, Guiding Out**

3.3.2.5 Concluding Remarks

Conclusion

High Cholesterol and Dietetics, Pt. 2

3. Prevention and Treatment of Dyslipidemia in Chinese Medicine

3.1 Lifestyle

3.1.1 Sleep Hygiene

Chinese medicine holds that regular sleeping habits are crucial to good health. Modern research shows that sleep habits have an effect on serum lipid levelsⁱ and Body Mass Index (BMI)ⁱⁱ. However, the majority of modern studies only look at total amount of sleep, ignoring other aspects of sleep hygiene such as bedtime, and regularity of bed/wake times. Chinese medicine contends that sufficient sleep time and regularity of bedtime and wake-time are all important. In general, 8 hours of sleep is considered an appropriate amount for most individuals. For sick and/or weak patients more sleep may be necessary. Bedtime ideally should be around 9pm, and preferably no later than 10pm, and it is important to go to bed at roughly the same time each night. Children need around 11 hours of sleep each day, including naps, and should generally sleep earlier than adults.

3.1.2 Elimination

Bowel Movement

CM has long recognized that healthy bowel movements are crucial to health and longevity, and the importance of this cannot be overstressed. The stool is made up largely of metabolic waste products that need to leave the body in a timely manner. If they do not, these metabolic waste products cannot completely leave the body and a host of problems can result.

While allopathic medicine may not recognize any connection between bowel movements and dyslipidemia, CM does. The metabolic waste that stagnates in the body as a result of poor bowel movements often manifests as dampness and heat, both of which are implicated in conditions such as dyslipidemia, atherosclerosis, and CHD, as well as many other conditions.

Most patients will report having “normal” bowel movements. However, this often means “normal” (read, “usual”) for them, and is not “normal” in the sense of what is healthy or ideal. According to CM, a normal, healthy bowel movement consists of the following:

1. Occurs once each day, in the morning shortly after waking.
2. Stool should be thick, formed but soft, and in one long piece which does not float. Stool should not be thin, dry, hard, sticky, loose, or in many pieces. There should be no undigested food in the stool, exceptions being things like seeds, nuts, corn, and other difficult to digest items.

3. There should be a large quantity of stool, which is very easy to pass (no straining, and finished within a minute or so), and after evacuation the abdomen should feel very empty and light.
4. Stool should not be sticky. When wiping the anus, one wipe should be sufficient, and even then there should ideally be very little, or even nothing to wipe off. The stool should not stick to the toilet bowl. If one needs to wipe many times, or stool is sticking to the bowl, this is considered “sticky”.

Bowel movements not meeting these requirements cannot be considered normal according to CM. Furthermore, these requirements must be met everyday. If they are only occasionally met, the bowel movements cannot be considered normal. Likewise, even if they are only occasionally missed, the bowel movements cannot be considered entirely normal or healthy. Ideally, these requirements are met everyday.

While the CM diagnosis and treatment of abnormal bowel movements is complex and beyond the scope of this course, there are practices that help promote healthy bowel movements.

1. *Cultivate a regular bowel movement schedule.* If one does not already have a bowel movement each day shortly after waking, one should cultivate this habit by sitting on the toilet each morning in an attempt to pass the stool. One should not strain at the stool, or worry if the stool does not come, but rather try to coax the body into feeling that this is the correct time to go. If practiced routinely, this can help promote a regular movement.
2. *Self-massage to stimulate intestinal peristalsis and help induce a timely, more complete bowel movement.* Upon waking, but before getting out of bed in the morning, one can perform abdominal self-massage. Lying supine in the bed, gently rub the abdomen in a clockwise direction (the direction of peristaltic movement; clockwise, as if the abdomen itself were the face of a clock) with both hands flat over the abdomen for several minutes. Then, starting just above and to the left of symphysis pubis, make small, somewhat deeper, clockwise motions over the large intestine with an emphasis on the stroke in the direction of large intestine peristalsis. Massage a small section of the large intestine in this manner for 5 to 10 seconds, then move in a counter-clockwise direction to the next, more proximal section of the large intestine and massage there for 5 to 10 seconds. Continue in this manner until coming full-circle. Finish off the routine by repeating the first method again for a minute or two. For best results, this massage should be performed each morning.

3.1.3 Dietary Habits

Diet plays a major role in the development, prevention, and treatment of dyslipidemia. A huge amount of modern research shows that foods have significant impact on serum lipid levels, and some studies show correlation between regular mealtimes and serum lipidsⁱⁱⁱ. CM also recognizes these connections, and has long maintained that dietary habits have

significant effects on health. The following are some basic principles of eating according to CM.

Eat Meals at Regular Times

CM emphasizes that eating breakfast, lunch, and dinner at roughly the same time each day is an important part of maintaining healthy digestion. Irregular mealtimes disrupt the body's biological clock and damage the Spleen and Stomach. When the body's biological clock is in order, it prepares the Spleen and Stomach for meals that are due to arrive at regular times of the day. When food arrives on time, digestion takes place normally and efficiently. If the food does not arrive, or arrives at different times each day, the body never knows when to prepare the digestive system for food, and digestion suffers. In regards to serum lipids, at least one modern study shows irregular mealtimes can cause an increase in serum lipid levels.^{iv}

Do Not Overeat

Chinese medicine generally states that one should eat until 70% full. This means people should stop eating when they feel they can still eat a bit more, and definitely before a feeling of fullness sets in. Eating until feeling full or stuffed overburdens and damages the Spleen. In particular, one should avoid overeating in the evening.

Do Not Eat Dinner Too Close to Bedtime

When digestion is healthy, it is best to eat dinner no later than three hours before bedtime. If digestion is poor, this should be extended to four hours. Eating dinner too close to bedtime deprives the Spleen and Stomach of sufficient time to digest before sleep, thus impairing one's ability to rest and rejuvenate during sleep. Research shows that eating rich and/or difficult to digest foods too late in the evening can promote the deposit of triglycerides on the arterial walls and accelerate the development of arteriosclerosis.^v Therefore, it is advisable to eat dinner relatively early, and avoid rich and difficult to digest foods at this time.

Guidelines for Breakfast, Lunch, and Dinner

Breakfast

In the morning, the Spleen and Stomach are just waking up, and digestive function is a bit weak. At this time it is best to eat foods that are easy to digest and which promote rather than impair Spleen and Stomach function. The Spleen and Stomach prefer foods that are warm and cooked as these are easier to digest. This means one should generally avoid cold and raw food and drinks, especially at this time. Therefore, cold beverages such as refrigerated milk and juices, which are popular breakfast drinks in the West, should be avoided, as should breakfast cereal with cold milk. While it is necessary to eat a nutritious breakfast, it is important not to overeat at breakfast due to the weak state of digestion at this time of day. However, if easy to digest foods are prepared, and digestion is generally strong, one can eat a hearty breakfast without a problem. This is especially true for people who are physically active and require more nutrition for their daily activities.

Lunch

At this time Spleen and Stomach function are quite strong, and a good-size meal can be taken. Of course overeating is still not recommended.

Dinner

As mentioned above, dinner should be taken early. Overeating, and rich and difficult to digest foods should be avoided as these can affect the quality of sleep and the ability of the Spleen and Stomach to rest and recuperate during sleep, leading to impairment and weakening of digestive function.

General Dietary Considerations

1. *Avoid Trans Fatty Acids.* Trans fatty acids (trans fats) are the result of the partial-hydrogenation processing of liquid unsaturated fatty acids. This process eliminates the *cis*-configuration present in unsaturated fatty acids, which is crucial for the chemical reactions that fatty acids are involved in as a component of the cellular membrane. When ingested, trans fats are incorporated into the cellular membrane, where due to their lack of *cis*-configuration they interfere with proper cellular function. Furthermore, trans fat consumption has been shown to increase the levels of small-particle LDL, which has more atherogenic potential than large-particle LDL. Trans fats have been implicated in a large number of illnesses by modern research, including heart disease (by raising the levels of atherogenic lipoprotein-a (Lp(a)), cancer, diabetes, asthma, impaired immune function, obesity, impaired development and growth, reproductive dysfunction, and impaired lactation, to name a few.

While we are often warned of the dangers of saturated fats, such as those found in butter, meat-fat, and tropical oils, these fats are in fact necessary and beneficial for human health, and should not be put in the same category as trans fats, which have no beneficial effects and cause harm. One study, the AJCN trans-fat study^{vi}, showed a butter-rich diet (saturated fat diet) led to high levels of LDL, but the LDL particles were very large, and therefore less atherogenic. While Chinese medicine traditionally has no stance on this subject (since it is a relatively new subject), the majority of Chinese medicine physicians consider natural foods and traditional diets to be superior to processed foods and fad-diets. The former are time-tested, while the latter are experiments on human health, which are largely proving harmful.

2. *Restrict caloric intake.* Individuals who are overweight or suffer from elevated serum triglycerides should control daily caloric intake. For average working adults, a daily caloric intake of 1480 kcals is sufficient.^{vii} For physically active individuals, laborers, or athletes, this amount can be increased.

3. *Restrict sugar intake.* Carbohydrates such as sucrose and fructose have a definite effect on serum triglyceride levels. Research shows that substitution of sucrose in place of starch in the diet of animals leads to increased serum cholesterol and triglycerides. Furthermore, in countries and areas where fat intake is relatively high, subsequent increase of sugar intake increases the incidence of coronary artery disease.^{viii}

4. *Eat a wide variety of foods, avoid fastidious eating.* In order to receive adequate amounts of vitamins and trace elements it is important to eat a wide variety of foods. Vitamins C, B6, and B12 help prevent and treat hyperlipidemia and CAD. Whole grains, stalk vegetables, and nuts contain manganese and chromium, which can help prevent arteriosclerosis. Iodine can help prevent accumulation of lipids on arterial walls, so eating seaweeds can help prevent CAD. Garlic and onions can reduce serum lipids. Therefore, it is imperative to avoid fastidious eating and over-consumption of refined foods, both of which may deprive the body of important nutrients.

5. *Grains should be the staple of the diet.* Grains are suitable to be the bulk of the diet. All kinds of grains are good, however corn, millet, oats, rice, and wheat are considered best for dyslipidemia patients.

6. *Eat more sea fish.* Sea fish are rich in EPA and DHA. DHA has been shown to reduce serum lipids, and protect the cardiovascular and nervous systems.

7. *Eat high quality proteins that are low in cholesterol.* Eating fish (especially sea fish), beans and bean products such as tofu, poultry, lean meat, and milk can increase intake of high quality protein without significantly increasing serum cholesterol.

8. *Eat more fresh fruits and vegetables.* Fresh fruits and vegetables contain relatively large amounts of vitamins, minerals and other important nutrients. The fiber also helps digestion and elimination.

9. *Eat more shitake and oyster mushrooms.* Shitake mushrooms are an excellent source of amino acids, vegetable proteins, iron, thiamine (vitamin B1), riboflavin (vitamin B2), niacin, and vitamins B6, B12, and D2. Shitake also contains chitin, eritadenine, and lentinacin, all of which have been shown to lower serum cholesterol. 3 to 4 pieces of shitake contain approximately 100mg of lentinacin. Oyster mushrooms also contain some of these compounds and have been shown to have lipid-lowering effects.

10. *Eat more nuts.* A variety of nuts have been shown to improve serum lipid profiles, reducing LDL and increasing HDL. These include pecans, almonds, walnuts, hazelnuts, peanuts, and pistachios. Recent studies show macadamia nuts also reduce plasma total and LDL cholesterol levels. Fresh, raw nuts are preferable, but they must be chewed very well. 1 to 1.5 ounces per day is a suitable amount.

3.2 Food Therapy

3.2.1 Individual Foods

1. Fruits

1. *Chinese Date (Fructus Zizyphi Jujubae, Jujube)*

Characteristics: sweet, neutral. Channels entered: Spleen, Stomach.

Functions:

Supplements and tonifies the Spleen and Stomach qi, nourishes the blood and calms the spirit.

Comments:

Jujube is sweet, moistening, and moderately warm, and is an important substance for tonifying the Spleen and Stomach qi. It nourishes blood, supplements qi, and relaxes the mind. Dried jujubes have a stronger tonifying effect than the fresh fruit.

Indications:

Deficient and weak Spleen and Stomach, fatigue, weakness, poor appetite, loose stools, anemia, sallow complexion, weight loss, restlessness.

Dosage and preparation:

Each time take 3 to 20 pieces. Can be eaten fresh, stewed, or cooked in congee or soups.

Cautions:

Jujube is sweet and cloying and may lead to formation of dampness and heat, therefore it should not be overeaten. Individuals with dampness in the Spleen and Stomach, abdominal distention and fullness, or cough with yellow sputum (phlegm heat) should avoid jujube.

Modern Research:

1. Contains protein, amino acids, carbohydrates, calcium, phosphorous, iron, magnesium, potassium, and a variety of vitamins.
2. Jujube has been shown to reduce serum cholesterol levels in humans, and is particularly effective when combined with celery stalk.

Recipes:

Stewed Jujube:

Wash jujubes in cold water, place in a pot, add water to cover by 2-3 inches, and soak for 30-60 minutes. Then bring to a boil and simmer on medium-low heat for 1-2 hours until plump, ensuring there is sufficient water to prevent burning. Each time eat 3-20 dates, along with the soup. Can be eaten warm or cold. This is a very pleasant and sweet dish that can be taken as a desert or snack.

Jujube Congee:

Cook congee with 30-50 pieces of jujube. Eat several times per week, as desired. (Note: Congee can be prepared according to instructions in “Congee” section below.)

2. *Shan Zha / Hawthorne Fruit (Fructus Crataegi)*

Characteristics: sour, sweet, slightly warm. Channels entered: Spleen, Stomach, Liver.

Functions:

Strengthens the Stomach and dissolves food stagnation, invigorates the blood and transforms blood stasis.

Comments:

Hawthorn's main function is to strengthen the Stomach and dissolve food stagnation. It can increase appetite, quicken metabolism, and is particularly effective to aid in the digestion of meats and oily, fatty, and greasy foods causing stagnation. It also goes to the blood, where it invigorates the blood, transforms blood stagnation, reduces swelling, and stops pain.

Hawthorne is indicated for use in conditions of digestive stagnation due to meat and dairy products with abdominal distention, fullness, and pain. It is very useful in cases of coronary artery disease, hypertension and hyperlipidemia.

Dosage and preparation:

Dried, 6 to 12 grams per day. Fresh, 10 to 30 grams per day. Can be eaten fresh, stewed, or as a jam, gelatin, or candied.

Cautions:

Not suitable for persons with weak Spleen and Stomach function when no food stagnation is present. Avoid use in patients with gastric hyperacidity, and tooth and gum disease.

Modern Research:

1. Contains tartaric acid, carbohydrates, and large amounts of vitamin C.
2. Hawthorn fruit can cause systemic vasodilation, increase coronary artery patency and blood flow, reduce blood pressure, reduce serum cholesterol and β -lipoprotein, and strengthen the heart.

Recipes:

Stewed hawthorn fruit: wash fresh hawthorn, slice in half, place in pot with water to cover by several inches. Bring to a boil then reduce heat and simmer for 30 minutes. Add sugar or honey to taste and cook an additional 10 minutes. This can also be done with the dried fruit, which is generally more readily available in the US than the fresh fruit.

Hawthorn tea/infusion: place 3-5 grams dried hawthorn slices in a cup or teapot. Add boiling water and steep. Add sugar or honey to taste.

Note: These preparations are best taken after meals as a desert or tea, and are particularly useful after eating rich, fatty, oily, or meat-rich foods.

3. *Gou Qi Zi* / Chinese wolfberry fruit (*Fructus Lycii*- Goji berry, matrimony vine fruit, lycium fruit)

Characteristics: sweet, neutral. Channels entered: Liver, Lung, Kidney.

Functions:

Supplements the Liver and Kidney, nourishes essence and blood, brightens the eyes.

Comments:

Wolfberry is sweet, neutral, and moistening, and supplements Liver and Kidney yin. It is especially effective at nourishing the essence and blood, and is well known for its ability to “brighten” the eyes, or improve vision.

Suitable for use in cases of Liver and Kidney yin deficiency and insufficiency of essence and blood with symptoms such as soreness and weakness of the lumbar region and knees, dizziness, tinnitus, spermatorrhea, infertility, dry mouth, polyuria, and decreased visual acuity. It is particularly useful in cases of Liver and Kidney deficiency with hyperlipidemia and/or fatty liver.

Dosage and preparation:

6-15 grams per day. Can be taken raw, cooked in soups, steeped as an infusion/tea, or soaked in alcohol.

Cautions:

Should be avoided in cases of Spleen deficiency with accumulation of dampness or damp heat.

Modern Research:

1. Contains betaine, carotene, sulfur, vitamin B-2, vitamin C, linoleic acid, thiamine, and riboflavin.
2. Has an effect of lipid metabolism, inhibits the deposit of lipids in hepatocytes, increases hepatocyte regeneration, and helps prevent fatty liver. It has also been shown to reduce cholesterol levels, and inhibit the development of atherosclerosis.

Recipes:

1. Wolfberry and chrysanthemum tea: steep 3-5 grams wolfberry and 2-3 grams dried chrysanthemum flower in a cup or teapot. Can steep several times until flavor is gone, at which point the wolfberries may be eaten. This is a classic CM herb combination using one herb to tonify the Liver yin and blood (wolfberry) and one herb to cool and clear heat from the Liver (chrysanthemum). It is mild and suitable for daily consumption, especially in patients with Liver yin deficiency and mild heat symptoms such as red and dry eyes, poor vision, dizziness, tinnitus, and dry mouth.

2. Chicken soup with wolfberry: prepare chicken soup as you like, adding 10-15 grams dried wolfberry to the pot at the beginning of the cooking process. Chicken meat tonifies qi and blood, and the addition of wolfberry increases the blood-tonifying function.

4. Sunflower Seed

Characteristics: sweet, cool (toasted seeds are warm and dry). Channels entered: Large Intestine.

Functions:

Moistens the Lung and pacifies the Liver, expels dampness. Reduces serum lipids.
Antihelminthic.

Comments:

Can be used in cases of hyperlipidemia, arteriosclerosis, and hypertension. Also used as an antihelminthic in cases of pinworm infection.

Dosage and preparation:

Eaten raw or lightly toasted.

1. Shell one handful of raw, unshelled sunflowers seeds each morning and evening and eat together with 100 ml raw celery juice (see “celery” section).
2. Take 6 grams raw sunflower seed powder together with one cup of water each evening.

Cautions:

Toasted sunflower is warm and drying and over-consumption can lead to internal heat and dryness with symptoms such as dry mouth, mouth ulcers, and tooth-pain.

Modern Research:

1. Contains phospholipids, β -sitosterol.
2. Phospholipids have been shown to prevent acute hyperlipidemia and hypercholesterolemia in animal studies.
3. Sunflower seed is rich in oils, over 50% of which is linoleic acid. Linoleic acid has been shown to inhibit thrombogenesis and reduce serum cholesterol.

5. Tomato

Characteristics: sweet, sour, cool. Channels entered: Liver, Stomach, Lung.

Functions:

Clears heat and generates fluids, strengthens the Stomach and dissolves food stagnation, nourishes the yin, cools the blood.

Comments:

Compared to other fruits and vegetables, tomato has a relatively strong effect to clear heat, generate fluids, and quench thirst. It can also nourish Liver yin and clear blood heat.

Tomato is suitable for conditions such as: febrile disease with strong thirst; Stomach heat with thirst and dry mouth; Liver yin deficiency with dizziness, dry eyes, and night-blindness; yin deficiency with blood heat, nose-bleeding, and gum-bleeding. It can also be used in cases of hypertension, hyperlipidemia, and hemophilia.

Dosage and preparation:

Can be eaten raw, cooked in soups, juiced, fried, or made into sauces.

Cautions:

Should not be taken in large quantities in cases of Spleen and Stomach deficiency and cold.

Modern Research:

1. Contains malic acid, vitamin C, vitamin A, vitamin K, vitamin E, folate, potassium, lycopene, beta-carotene, gamma-carotene and phytoene.
2. Tomato has been shown to reduce serum cholesterol and blood pressure in animal studies.

6. Kiwi Fruit

Characteristics: sweet, sour, cool. Channels entered: Kidney, Stomach, and Urinary Bladder.

Functions:

Clears heat and quenches thirst, harmonizes the Stomach and stops nausea, promotes urination.

Comments:

Kiwi fruit is sweet, sour, cool, and very juicy. Its ability to clear heat, generate fluids, and quench thirst is excellent. It can harmonize and strengthen the Stomach to reduce nausea, and can also clear damp heat from the Urinary Bladder and promote urination. It is primarily used in cases of febrile disease or Stomach heat with thirst, heat stagnation affecting the Stomach and causing nausea or reduced appetite, and damp heat causing difficult urination or renal calculi.

Dosage and preparation:

30-60 grams fresh fruit. Can be taken raw, as juice, or stewed.

Cautions:

Should be taken with caution in cases of Spleen and Stomach deficiency and cold.

Modern Research:

1. Contains vitamin B-1, vitamin C, sulphur, phosphorous, sodium, potassium, calcium, iron, magnesium, and betacarotene.
2. Research shows kiwi fruit can lower serum cholesterol and triglyceride levels.

7. Fig

Characteristics: sweet, neutral. Channels entered: Spleen, Stomach.

Functions:

Supplements the Spleen and Stomach, moistens the Lung and benefits the throat, and moistens the intestines and promotes bowel movement.

Comments:

Figs are beneficial in cases of Spleen and Stomach deficiency and weakness with poor digestion. They are rich in fiber and can moisten the intestines so are very useful in cases of dry stool with constipation, hemorrhoids, or rectal prolapse. They also moisten the Lung and can be used when dryness and heat in the Lung cause throat pain and cough.

Dosage and preparation:

50-100 grams per day (dried). Can be taken fresh, dried, or stewed.

Cautions:

None noted.

Modern Research:

1. Figs are rich in rich in vitamins and minerals, including vitamins A, B1, B2, B6, and K, iron, calcium, magnesium, zinc, sodium & potassium.
2. Figs have been shown to lower blood pressure and reduce serum lipid levels, and are well suited for conditions such as CHD, hypertension, arteriosclerosis, and constipation, especially in the elderly.

8. Walnuts

Characteristics: sweet, warm. Channels entered: Lung, Large Intestine, Kidney.

Functions:

Supplements the Kidney and strengthens the yang, supplements and astringes the Lung, moistens the intestines and promotes bowel movement.

Comments:

Good in cases of Kidney deficiency with lumbago, atrophy and weakness of the legs, polyuria, spermatorrhea, and impotence. Also for Lung qi deficiency, or deficiency of both Lung and Kidney with asthma and shortness of breathe. Can be used for dryness in the intestines with dry stool, constipation, and difficulty passing the stool.

Dosage and preparation:

10-30 grams per day. Can be taken raw or cooked in a variety of ways.

Cautions:

Not suitable in cases of yin deficiency heat, hot-phlegm cough, or loose stools.

Modern Research:

1. Contains fatty acids, protein, carbohydrates, beta-carotene, vitamin E, calcium, magnesium, and iron.
2. Fatty acid content is particularly high, up to 60-70%, including a large amount of linoleic acid glycerides. These unsaturated fatty acids provide nutrition, increase serum albumin levels, decrease serum cholesterol levels, and help prevent arteriosclerosis, making walnuts a suitable food for cardiovascular disease patients.

9. Apple

Characteristics: sweet, sour, cool. Channels entered: Spleen, Stomach, Heart.

Functions:

Strengthens the Stomach and generates fluids, reduces irritability, helps reduce alcohol toxicity and promote hangover recovery. Also transforms phlegm and reduces lipids.

Comments:

Apple can be used in cases of deficient and weak Spleen and Stomach with abdominal distention after eating, and loose stools. It can generate fluids, quench thirst, and alleviate dry mouth. It can also assist in recovery from hangover caused by alcohol toxin.

Apple contains large amounts of pectin and can reduce serum cholesterol concentrations. There have been reports showing individuals who consume 1 to 2 apples per day can reduce serum cholesterol by up to 10%.^{ix}

Dosage and preparation:

1-2 fresh apples per day, raw or stewed.

Cautions:

Should not be overeaten or may cause abdominal distention.

Modern Research:

1. Contains L-malic acid, acetic acid, and beta-carotene.
2. The pectin in apple can combine with other substances such as vitamin C, fructose, and magnesium, to strengthen their overall cholesterol reducing properties.

2. Vegetables

1. Cucumber

Characteristics: sweet, cool. Channels entered: Spleen, Stomach, Large Intestine, Lung.

Functions:

Clears heat and stops thirst, promotes urination, relieves toxins.

Comments:

Cucumber is often used after febrile disease when strong thirst is present, but can be used anytime heat gives rise to thirst and dry mouth. It can be used in cases of urinary difficulty and edema, red and painful eyes, and applied topically for burns.

Dosage and preparation:

Can be eaten raw or cooked.

Cautions:

Cucumber is cold, and not suitable in cases of Stomach cold.

Modern Research:

1. Contains sucrose, galactose, fructose, amino acids, calcium, phosphorous, iron, and vitamins A, B, C, and D.
2. Raw cucumber contains propanol and acetic acid and can inhibit the transformation of sugars into fat. Thus, cucumber can help reduce serum cholesterol and aid in weight loss. Cucumber also contains very fine cellulose and can stimulate intestinal peristalsis and speed up elimination of metabolic waste.

Recipes:

1. Cucumber salad: Wash and slice 1-2 cucumbers and place in bowl with 1 clove finely chopped garlic, a pinch of salt, and Chinese black vinegar (or other vinegar of preference) to taste. Stir and serve cold. Cucumber, garlic, and vinegar all can reduce serum cholesterol.

2. Celery

Characteristics: acrid, sweet, cool. Channels entered: Liver, Stomach, Lung.

Functions:

Clears heat and pacifies the Liver, promotes urination, stops bleeding, and strengthens the Stomach.

Comments:

Indicated in cases of Liver heat and Liver yang rising with irritability, restlessness, and dizziness. Also for Stomach heat with nausea and poor appetite. Frequently used in cases of hypertension and hyperlipidemia.

Chinese celery differs somewhat from the celery commonly found in the west. Compared to western celery, Chinese celery stalks are thinner and the taste is stronger and more aromatic. It is seldom, if ever, eaten raw. Its cholesterol reducing effect is also stronger than western celery, however, the latter can still be used for this purpose.

Dosage and preparation:

50-100 grams fresh. Western celery can be eaten or juiced raw, but Chinese celery is virtually always cooked. Both can be cooked in soups, stir-fried, or par-boiled.

Cautions:

Should not be eaten in large quantities in cases of Spleen and Stomach deficiency with loose stools.

Modern Research:

1. Contains proteins, carbohydrates, vitamins A and C, calcium, phosphorous, iron, beta-carotene, etc.
2. Frequent consumption of celery has been shown to reduce serum cholesterol levels.

Recipes:

1. Chinese celery juice: This pleasant tasting juice is very useful to reduce serum cholesterol levels. Wash 10 celery stalks and cook with 100 ml water until approximately 200 ml of juice is extracted, then strain into a bowl and drink in the morning on an empty stomach. Cook the celery a second time using the same method, and drink in the evening on an empty stomach. For more severe cases of hypercholesterolemia the amount of celery can be doubled and the juice divided into four equal parts to be taken throughout the day. Repeat each day for approximately 3 weeks. Western celery can likewise be juiced: wash celery stalks and leaves well, then juice them raw using a juice machine.

3. Eggplant

Characteristics: sweet, slightly cold. Channels entered: Lung, Large Intestine, Stomach.

Functions:

Clears heat and cools the blood, invigorates the blood and removes blood stasis, promotes bowel movement.

Comments:

Eggplant has a cooling nature, and primarily affects the Lung and Large Intestine, clearing heat from the Lung in cases of phlegm heat cough, and clearing heat, cooling the blood, and stopping pain in the Large Intestine to promote bowel movement and treat bleeding and painful hemorrhoids.

The breakdown products of eggplant can bind with cholesterol in the intestine, preventing the absorption and promoting the excretion of the cholesterol via the stool.

Dosage and preparation:

Eggplant can be taken in suitable amounts either fried, steamed, boiled, baked, or even juiced. It is generally not eaten raw.

Cautions:

Eggplant is cold, so should be avoided in cases of Spleen and Stomach deficiency and cold, and in cases of diarrhea caused by cold in the Intestines.

Modern Research:

1. Contains vitamin P (bioflavonoids), beta-carotene, vitamins B6, C, K, thiamine, niacin, folate, sodium, potassium, magnesium, manganese, etc.
2. Eggplant is relatively rich in bioflavonoids (vitamin P) and has protective effects on capillaries.

4. Daikon Radish (Chinese radish, oriental radish, Japanese radish)

Characteristics: acrid, sweet, cool. Channels entered: Spleen, Lung.

Functions:

Clears heat and generates fluids, cools the blood and stops bleeding, dissolves food stagnation and transforms phlegm, promotes urination, relieves toxins. When cooked its functions are slightly more on the side of tonifying the Spleen, harmonizing the Stomach, and dissolving food stagnation.

Comments:

Daikon's functions change somewhat after cooking, so distinction needs to be made between raw and cooked. Raw daikon is more suitable for thirst, heat, and cough with yellow sputum due to phlegm-heat in the lung. Cooked daikon also removes phlegm but is not as cooling as raw daikon. Cooked and raw both remove food stagnation, but cooked can also tonify the Spleen and Stomach, strengthening digestion. Cooked is more suitable in cases of obesity due to deficiency with food stagnation and abdominal bloating.

Daikon is often used in cases of: thirst and dry mouth; nose bleeding, coughing with blood streaked sputum; phlegm-heat cough with throat pain and loss of voice; dysentery or diarrhea with abdominal pain and distention; disharmony of Spleen and Stomach with food stagnation and nausea; urinary tract infection; gallstones.

Daikon is particularly rich in vitamin C, and contains active enzymes that aid digestion, particularly of starchy foods.

Dosage and preparation:

Raw daikon is often sliced julienne, or juiced (in which case, due to its spicy nature, it is usually added to other juices such as carrot, celery, etc.). Daikon is often cooked in soups, fried with strips of lean meat, or pickled.

Cautions:

Raw daikon is not suitable for persons with Spleen and Stomach deficiency and weakness.

Modern Research:

1. Contains high levels of dietary fiber, magnesium, potassium and vitamin C, as well as vitamins A and B, beta-carotene, iron, phosphorous, and sugars.
2. Daikon has been shown to reduce serum lipid levels, aid in weight loss, and prevent cancer.

Recipes:

1. Raw daikon can be sliced julienne and eaten with a dip, or a small amount of black Chinese vinegar, soy sauce, and sesame oil can be drizzled over it.
2. Daikon is excellent in soups, particularly chicken soup, spare-rib soup, or soup-bone stock.

5. Carrot

Characteristics: sweet, neutral, neutral. Channels entered: Lung, Spleen, Liver.

Functions:

Strengthens the Spleen and dissolves food stagnation, benefits the intestines, nourishes the Liver and brightens the eyes, clears heat and relieves toxins, transforms phlegm and stops cough.

Comments:

Carrot is particularly useful in cases of poor digestion with food stagnation, abdominal distention, and constipation. It can be used in cases of Liver deficiency with poor vision or night-blindness. In children, carrot can be used to treat poor digestion and whooping cough. Recently it has been used in cases of geriatric cardiovascular disease.

Dosage and preparation:

Carrot can be eaten raw, in soups or stews, stir fried, or juiced.

Cautions:

Carrot is not suitable to be eaten in large amounts as the carotene can cause the skin to turn yellow.

Modern Research:

1. Contains large amounts of carotene, vitamins B1, B2, folic acid, and a variety of amino acids. Also contains calcium, phosphorous, iron, etc.
2. Carrot has been shown to speed up the elimination of mercury ions from the body, and research points to the high levels of pectin which may bind to the mercury ions, reducing mercury blood levels.
3. Carrot has been shown to increase coronary artery perfusion, reduce serum lipids, reduce blood pressure, and lower blood sugar.

6. Garlic

Characteristics: spicy, sweet, warm. Channels entered: Spleen, Stomach, Lung, Large Intestine.

Functions:

Warms and strengthens the Spleen and Stomach, dissolves food stagnation and regulates qi, relieves toxin and kills parasites.

Comments:

Raw and cooked garlic have somewhat different nature and function. Raw garlic is hot, spicy, and very irritating. Over-consumption can lead to nausea, bad breath, damage to the yin and blood, and give rise to internal heat. Cooked garlic is warm and sweet, and can be consumed in larger amounts. Both can alleviate abdominal pain due to food

stagnation, consumption of contaminated food, or food poisoning. Recently garlic has been used in cases of hypertension and hyperlipidemia.

Dosage and preparation:

Raw and cooked garlic can be eaten regularly, but raw only in small quantities. Garlic can also be roasted, fried, or juiced (in combination with other juices).

Cautions:

Raw garlic is very irritating and should be avoided in cases of gastric ulcer, duodenal ulcer, and chronic gastritis.

Modern Research:

1. Contains volatile oils, the main components of which are allicin and allitride.
2. Allicin can stimulate gastric secretions, increase appetite, and aid digestion.
3. Garlic has been shown to reduce blood pressure, reduce serum cholesterol and triglyceride levels, and prevent atherosclerosis.

7. *Shitake Mushroom*

Characteristics: sweet, neutral. Channels entered: Stomach.

Functions:

Supplements the Spleen and tonifies qi.

Comments:

Shitake mushroom is used in cases of Spleen and Stomach deficiency and weakness with poor appetite, fatigue, and generalized weakness. Recently it has been used in cases of hyperlipidemia and cancer.

Dosage and preparation:

6 to 10 grams. Cooked in soups, stir-fry, and in stews. Best quality shitake are very dark on the top of the mushroom-cap. Can be purchased fresh or dried. Dried ones need to be re-hydrated before cooking: soak in warm water for 30-60 minutes before use and clean around the underside of the cap to remove any sand or dirt that may be present. This is even a good idea when making soup with the dried mushrooms or the sand may end up in the soup. The water used for soaking may be added to the soup or used in some other way in cooking as it contains nutrients and flavor which should not be thrown away.

Cautions:

Not suitable in cases of elevated serum uric acid and/or gout.

Modern Research:

1. Contains protein, fat, a variety of enzymes and vitamins, carbohydrates, vitamins B and C, calcium, phosphorous, iron.
2. Has been shown reduce serum lipids and suppress tumor growth.

Recipes:

1. Shitake is an excellent addition to a variety of soups, such as chicken or pork soup. Also can be sliced and stir-fried with vegetables and/or meat.

8. Tofu (soybean curd, doufu)

Characteristics: sweet, cool. Channels entered: Spleen, Stomach, Large Intestine.

Functions:

Supplements the Spleen and harmonizes the Spleen and Stomach, generates fluids and moistens dryness, promotes urination, clears heat and toxins.

Comments:

Used in cases of convalescence with weakness and deficiency of the Spleen and Stomach. Also used for thirst, red and painful eyes, and lung heat with cough. Good in cases of Lung and Stomach heat.

Dosage and preparation:

50-200 grams. Can be prepared in soups, stews, fried, etc.

Cautions:

Overeating can cause abdominal distention and nausea. All beans and bean products contain high levels of purine and should be avoided in cases of elevated serum uric acid and gout.

Modern Research:

1. Contains protein, fat, sugar, calcium, phosphorous, iron, vitamin B1, and vitamin C.
2. Tofu has been shown to reduce serum cholesterol as well as prevent hypertension, diabetes, and arteriosclerosis.

Grains

1. Buckwheat

Characteristics: sweet, cool. Channels entered: Spleen, Stomach, Large Intestine.

Functions:

Strengthens the Spleen and removes dampness, dissolves accumulations, descends qi, and relaxes the intestines.

Comments:

Used in cases of food stagnation and accumulation in the Stomach and Intestines with abdominal pain, fullness, and distention. Buckwheat removes dampness and can be used in cases of leucorrhea.

Dosage and preparation:

30-60 grams.

Cautions:

Should not be consumed in large amounts or for extended periods of time. Also should be avoided in cases of cold and deficient Spleen and Stomach.

Modern Research:

1. Contains protein, fat, calcium, phosphorous, iron, and vitamin B.
2. The protein content of buckwheat is similar to that of rice, but buckwheat contains significantly larger amounts of lysine and arginine. Buckwheat also contains large amounts of oleic acid and linoleic acid, both of which can reduce serum lipid levels.
3. Contains large amounts of rutin, which has been shown to strengthen capillaries and may help reduce risk from cerebral hemorrhage. Rutin also has anti-inflammatory effects, helps prevent atherogenesis, and reduces the cytotoxicity of oxidized LDL cholesterol.

2. Oats

Characteristics: sweet, neutral. Channels entered: Liver, Spleen, Stomach.

Functions:

Nourishes the Liver and harmonizes the Stomach.

Comments:

Oats are used in cases of Liver and Stomach disharmony with reduced appetite.

Dosage and preparation:

Usually boiled and eaten as a hot breakfast cereal.

Cautions:

None noted.

Modern Research:

1. Contains starch, fat, protein, calcium, phosphorous, iron, carbohydrates, etc.
2. Oats contain saponins and are rich in fiber and can reduce serum cholesterol, triglycerides, and β -lipoproteins. Frequent consumption can reduce risk of cardiovascular and cerebrovascular disease.

3. Corn

Characteristics: sweet, neutral. Channels entered: Spleen, Stomach.

Functions:

Regulates and strengthens the Spleen and Stomach, tonifies the Lung and calms the Heart, promotes urination.

Comments:

Used in cases of Spleen and Stomach weakness with poor appetite. For night sweats and restlessness. Also used for hyperlipidemia and coronary artery disease.

Dosage and preparation:

50-100 grams. Can be eaten steamed or boiled, in soups, or in congee.

Cautions:

Not suitable to be eaten alone for long periods of time.

Modern Research:

1. Contains starch, fat, protein, calcium, phosphorous, iron, vitamins B1, B2, B6, etc.
2. Corn oil contains unsaturated fatty acids and can control the absorption of cholesterol and reduce serum cholesterol levels.
3. Yellow corn contains large amounts of vitamins A and E, both of which can reduce serum cholesterol and help prevent hypertension and coronary artery disease.

3.2.2 Lipid-Reducing Food Formulas

1. Teas

1. Hawthorn and chrysanthemum tea

Ingredients:

- dried chrysanthemum flower, 10 grams
- dried and sliced hawthorn fruit, 30 grams
- green tea, 10 grams.

Instructions:

Place ingredients in teapot and steep with boiling water. Drink throughout the day in place of water.

Functions:

Clears heat and transforms phlegm, invigorates the blood and reduces lipids.

Indications:

Hyperlipidemia, coronary artery disease.

Discussion:

Chrysanthemum disperses wind, clears heat, brightens the eyes, and relieves toxins. Modern research shows it can increase coronary artery perfusion and myocardial blood supply, lower blood pressure, and has definite effect on coronary artery disease and hypertension. Hawthorn contains triterpenoids and yellow ketones which can strengthen and regulate cardiac muscle, increase the amplitude of atrial and ventricular contractions, increase coronary artery perfusion, prevent cardiac arrhythmias due to electrolyte imbalance, and reduce cholesterol. Green tea contains many types of vitamins, and in particular its vitamin C can increase vascular flexibility and elasticity, reduce serum cholesterol, prevent accumulation of fats in the liver, and prevent atherosclerosis.

Combination of these three substances synergistically increases their ability to prevent and treat CAD and hypertension, as well as reduce serum lipids.

2. Lotus leaf tea (*Folium Nelumbinis Nuciferae*)

Ingredients:

- dried lotus leaf, 9g
- black tea, 9g

Instructions:

Crush dried lotus leaf into small pieces and boil 15 minutes in one-liter water. Add tea leaves at the end and steep for 5 minutes. Strain liquid and drink throughout day in place of water.

Functions:

Reduces lipids and disperses swelling.

Indications:

Hyperlipidemia, hypertension, obesity.

Discussion:

Lotus leaf is sweet, bitter, and neutral. It strengthens the Spleen and Stomach and separates the clear from the turbid, sending the clear qi upwards to nourish the body and the turbid qi downward to be eliminated from the body. It also drains dampness, disperses blood stagnation, dissolves oils and fats, and is often used to remove lipids, lose weight, and disperse swelling.

3. Chinese wolfberry tea

Ingredients:

- Chinese wolfberry, 60g
- black tea, 30g

Instructions:

Place the wolfberry and black tea together in a storage container and shake to mix well. Each day take 10 grams of the mixture, place in a teacup or teapot and steep with boiling water. Drink throughout course of day in place of water.

Functions:

Nourishes the Liver and supplements the blood, clears heat and brightens the eyes, helps prevent senility.

Indications:

Liver yin and blood deficiency with dizziness, blurry vision, decreased visual acuity, hypertension, hyperlipidemia, diabetes, atherosclerosis, and premature aging.

Discussion:

Wolfberry supplements the Liver, brightens the eyes, nourishes the blood and prevents aging. The classic text “Ben Cao Jing Shu” states, “Wolfberry is moist and nourishing and can also clear heat. It is an important tonic herb for cases of Liver and Kidney true-yin deficiency with exhaustion and internal heat.” Modern pharmacological research shows it can reduce cholesterol, lower blood sugar, and protect the cardiac and cerebral vasculature. Wolfberry also contains beta-carotene and germanium and can help prevent premature aging and senility.

4. Reishi mushroom tea**Ingredients:**

- Reishi mushroom (*Ganoderma Lucidum*), 10g
- green tea, 5g

Instructions:

Slice reishi into thin slices and steep (or boil for 5 minutes) together with the green tea. Drink over the course of the day in place of water.

Functions:

Tonifies qi and supplements the essence, promotes longevity.

Indications:

Weakness in the elderly, with respiratory system disease or cardiovascular disease leading to weakness of lung and cardiac function, hyperlipidemia, or atherosclerosis.

Discussion:

Reishi has been highly regarded throughout Chinese history for its medicinal properties, and is traditionally said to “raise the dead and restore life”. It is sweet and neutral, and according to the classic text “Shen Nong Ben Cao Jing”, “...benefits the ears and joints, protects the mind, supplements the essence, and strengthens the tendons and bones. Long term consumption makes the body light and stops aging.” Modern research shows reishi can dilate the coronary arteries, increase coronary artery perfusion, improve myocardial metabolism, decrease myocardial oxygen consumption, prevent angina pectoris, reduce serum lipid levels, and strengthen immune system function. It can also stop cough, transform phlegm and stop asthma, and is effective against chronic bronchitis, diabetes, hepatitis, CAD, hyperlipidemia, and hypertension.

2. Congees (rice porridge)

Congee, also known as xi-fan, zhou, or jook, is a porridge made from rice, and most often from short-grain rice. Plain rice congee is often eaten in China for breakfast with such things as pickles, tea-egg (egg hard-boiled in a decoction of tea leaves, star-anise, soy-sauce, etc.), preserved-egg, peanuts, sliced meats, etc. It is extremely easy to digest and

therefore one of the preferred foods for convalescence or for persons with weak digestion, including children, and the elderly and infirmed. Because of this, it is also used as a base for administering medicinal foods and herbs. Following is a plain-congee recipe, and some congee recipes to help with dyslipidemia.

1. Plain-Congee

Ingredients:

- 1-cup (about 200 grams) medium-grain or short-grain rice
- 10 cups water
- 1-teaspoon salt

Instructions:

In a large pot, bring the water and rice to a boil and allow to rolling-boil for 5 to 10 minutes, being careful to prevent over boiling. Then, turn the heat down to medium-low and place the lid on the pot, tilting it to allow steam to escape and prevent over boiling. Cook on medium-low to low heat, stirring occasionally, until the rice has the thick, creamy texture of porridge (50-70 minutes or so).

Functions:

Strengthens the Spleen and Stomach and leaches out dampness.

Indications:

Can be taken by anyone, but especially good in cases of weak digestion, convalescence, or for young children and the elderly.

Discussion:

Rice is sweet, bland, and neutral. It tonifies the Spleen and Stomach and leaches dampness from the Spleen. Cooking rice as congee makes it extremely easy to digest, and strengthens its tonifying and diuretic functions. Plain congee is rarely eaten alone, but rather with condiments such as peanuts, pickles, eggs, meat, etc.

Virtually anything can be cooked together with rice into congee, and medicinal congees are common in China. The following are congees that can help with dyslipidemia. They are all based upon the above recipe for plain congee, and should be cooked according to those basic instructions.

2. Corn-meal Congee

Ingredients:

- Corn meal 60 grams
- medium or short grain rice 100 grams (1/2 cup)

Instructions:

Soak the corn meal in water to cover by ½ inch or so. Bring the rice to a boil in 5 cups water, then add the corn meal and cook according to “plain-congee” instructions above.

Functions:

Harmonizes the Stomach and opens the appetite, reduces lipids and promotes diuresis.

Indications:

Spleen and Stomach weakness, poor digestion, hypertension, hyperlipidemia, CAD, etc.

Discussion:

Corn contains linoleic acid, stearic acid, and vitamin E and is effective against arteriosclerosis, neurasthenia, and obesity, especially in the elderly.

3. Carrot Congee

Ingredients:

- Fresh carrot, 150 grams
- Medium or short grain rice, 100 grams (1/2 cup)

Instructions:

Place the carrots and rice together in a pot with approximately 5 cups water and cook according to “plain-congee” instructions above.

Functions:

Strengthens the Spleen and transforms stagnation, reduces lipids and moistens the intestines.

Indications:

Spleen deficiency with poor appetite, intestinal dryness and constipation, hypertension, hyperlipidemia, diabetes.

Discussion:

Carrot is rich in vitamins, minerals, and amino acids and can reduce serum lipids, reduce blood pressure, and strengthen heart function. Long-term, moderate consumption of carrots has many health benefits.

4. Peach Kernel Congee

Ingredients:

- tao ren / peach kernel (semen persicae), 10-15 grams
- medium or short grain rice, 1/2 cup

Instructions:

Crush peach kernels into a paste and cook with rice and 5 cups water into congee.

Functions:

Invigorates the blood and transforms blood stagnation, moistens dryness and lubricates the intestines.

Indications:

Hyperlipidemia due to Qi and blood stagnation, with constipation, joint pain, dysmenorrhea, or injury with qi and blood stagnation.

Discussion:

Peach kernel contains amygdalin, emulsin, oleic acid, linoleic acid, volatile oils, and fats. It can restrict blood coagulation and platelet aggregation, improve blood rheology, and is useful to reduce serum lipids.

5. Garlic Congee**Ingredients:**

- purple-skinned garlic, 30 grams
- medium or short grain rice, 100 grams (½ cup)

Instructions:

Skin the garlic and place it in a pot with a small amount of water and boil for one minute. Remove the garlic and place in pot with rice and approximately 5 cups water, then cook to make congee.

Functions:

Reduces lipids and lowers blood pressure. Also can help treat dysentery and lung tuberculosis.

Indications:

Hyperlipidemia, hypertension, atherosclerosis, acute dysentery, lung TB.

Discussion:

Garlic contains a large variety of nutrients, including protein, fats, carbohydrates, vitamins, and minerals such as calcium, phosphorous, and iron. Animal studies have shown garlic can reduce serum cholesterol and triglycerides, as well as increase serum HDL and reduce serum LDL, and therefore may be useful to prevent and treat atherosclerosis. Garlic has also been shown to reduce blood pressure and blood sugar.

Garlic contains volatile oils, which can cause bad breath. This effect can be reduced by sucking on either a small piece of dang-gui (radix angelica sinensis), a few leaves of green tea, or by eating a few jujubes (Chinese red date).

6. Coix Congee (Job's Tears Seed Congee)**Ingredients:**

- raw yi yi ren / coix (coicis lachryma-jobi semen), 30 to 60 grams
- medium or short grain rice, 100 grams (½ cup)

Instructions:

Wash the coix and rice, then place in a pot with approximately 5-6 cups of water and cook to make congee. The coix is done when it opens up a bit and is soft and chewy.

Functions:

Strengthens the Spleen and harmonizes the Stomach, drains dampness and reduces swelling, reduces lipids, helps prevent cancer.

Indications:

Chronic diarrhea, edema in the elderly, arthritis, and hyperlipidemia. Also can be used to help prevent cancers of the GI tract, such as stomach cancer and esophageal cancer.

Discussion:

Coix is an inexpensive and mild-tasting substance that is gentle yet effective. It can be found at most Chinese food stores under the Chinese name, “yi yi ren” (薏苡仁).

7. Mung Bean Congee

Ingredients:

- mung beans, ½ cup
- medium or short grain rice, 100 grams (½ cup)

Instructions:

Wash mung beans and soak for two hours in warm water, then drain soaking water and add mung beans to a pot along with the rice and approximately one quart of water. Cook until beans are falling apart, rice is very well done, and the congee is thick.

Functions:

Clears heat and toxins, reduces swelling, reduces lipids.

Indications:

Summer-heat with irritability, heat stroke, CAD, hyperlipidemia.

Discussion:

Animal studies have shown mung beans can reduce serum cholesterol, triglycerides, and LDL, and can impede the development of coronary artery atherosclerosis. Clinical trials have shown consumption of 50 grams per day of mung beans can significantly reduce serum cholesterol. Mung bean has no known side effects, is a valuable source of high-quality protein, and can satiate the appetite, and therefore is particularly suitable for hyperlipidemia patients who are also overweight.

8. Peanut-skin Congee

Ingredients:

- red-skinned peanut skins, 60 grams (this is the thin red skin which surrounds the peanut itself, not the shell of the peanut)

- medium or short grain rice, 60 grams (1/3 cup)
- rock sugar, suitable amount

Instructions:

First boil the peanut skins for 15 minutes in about 1 to 1.5 quarts water, then remove and discard the peanut skins. Add the rice and sugar to the pot with the peanut-skin water, and cook to make congee.

Functions:

Moistens the Lung and harmonizes the Stomach, lowers lipids and blood pressure.

Indications:

For the prevention and treatment of Lung and Stomach yin deficiency with hyperlipidemia and/or hypertension.

Discussion:

Modern research shows red peanut skins can reduce blood pressure and regulate serum cholesterol levels. Red peanut skins can also be steeped and taken as a tea to help reduce both serum lipids and blood pressure.

3. Soups

1. Celery and Jujube Soup

Ingredients:

- celery stalks, 60 grams
- dried jujubes, 30 grams

Instructions:

Wash the celery and jujubes and place in pot with a suitable amount of water. Boil for 30 to 60 minutes to make soup.

Functions:

Clears heat and pacifies the Liver, strengthens the Spleen and drains dampness, reduces lipids and blood pressure.

Indications:

Liver yang rising, Liver fire rising, Spleen deficiency with poor appetite, difficult urination, hypertension, hyperlipidemia, coronary artery disease.

Discussion:

Celery can cool and calm the Liver, helps protect the blood vessels, lowers blood pressure, and reduces serum cholesterol. Jujube strengthens the Spleen and lowers serum cholesterol. The combination of these two substances is particularly effective to reduce serum cholesterol.

If plain celery and jujube soup is unappealing, these two can be added to a variety of other soups with similar effect.

2. Hawthorn Berry and Cassia Seed Soup

Ingredients:

- hawthorn berry / shan zha, 30 grams
- cassia seed / jue ming zi (Semen Cassiae), 60 grams

Instructions:

Place ingredients in pot with suitable amount of water and boil to make soup.

Functions:

Strengthens the Stomach and dissolve food stagnation, lowers lipids and blood pressure.

Indications:

Food stagnation and accumulation, particularly of meat and dairy products, with hyperlipidemia and/or hypertension.

Discussion:

Hawthorn contains esterase and can speed up the breakdown of fats, and also contains a variety of organic acids which can increase peptase activity and aid in the digestion of meats. Hawthorn is vasodilatory, and can increase coronary artery perfusion and reduce serum cholesterol. Cassia seed has been shown to lower blood pressure and serum cholesterol, and is commonly used to prevent and treat atherosclerosis.

3. Chrysanthemum, Honeysuckle, Mulberry Leaf, and Hawthorn Berry Soup

Ingredients:

- Chrysanthemum flower (ju hua), 15 grams (dried)
- Honeysuckle flower (jin yin hua), 15 grams (dried)
- Hawthorn berry (shan zha), 15 grams (dried)
- Mulberry leaf (sang ye), 10 grams (dried)

Instructions:

Place ingredients in a pot with a suitable amount of water and cook for 15 minutes. Strain tea and drink over the course of the day.

Functions:

Clears heat and pacifies the Liver, invigorates blood and unblocks the vessels.

Indications:

Coronary artery disease, hypertension, hyperlipidemia, and arteriosclerosis.

Discussion:

Mulberry leaf, chrysanthemum flower, and honeysuckle flower clear heat and pacify the Liver. Hawthorn berry invigorates the blood and unblocks the vessels. Mulberry leaf, chrysanthemum flower and hawthorn berry can reduce blood pressure, chrysanthemum flower and hawthorn berry can dilate the coronary arteries and increase perfusion, and hawthorn and honeysuckle can reduce serum cholesterol.

4. Lotus leaf, winter melon skin, and pumpkin skin drink

Ingredients:

- Lotus leaf (he ye), 30 grams (dried)
- Winter melon skin (dong gua pi), 30 grams fresh, or 10 grams dried
- Pumpkin skin, 30 grams fresh

Instructions:

Place ingredients in a pot with suitable amount of water and boil for 15 minutes. Strain tea and drink over the course of the day.

Functions:

Strengthens the Spleen and promotes urination, reduces lipids and assists in weight-loss.

Indications:

Coronary artery disease, hyperlipidemia, obesity.

Discussion:

Modern research has shown lotus leaf can reduce serum lipid levels and assist in weight-loss. When combined with pumpkin skin, which tonifies the Spleen qi, and winter melon skin, which is diuretic and removes dampness, the lipid reducing effects are amplified significantly.

5. Daikon, winter melon skin and lettuce drink

Ingredients:

- daikon radish, 60 grams (fresh)
- winter melon skin (dong gua pi), 10 grams (dried)
- lettuce, 15 grams fresh

Instructions:

Place ingredients in a pot with suitable amount of water and cook for 15 minutes. Strain tea and drink over the course of the day.

Functions:

Dissolves food stagnation, transforms phlegm, and reduces lipids.

Indications:

Hyperlipidemia, obesity.

Discussion:

Daikon radish is exceptionally good at transforming phlegm, reducing food stagnation, and quenching thirst. It has been shown to reduce serum lipids and assist with weight-loss. Winter melon, it is said, should be “taken by those who wish to be thin and light, and avoided by those who wish to gain weight.” The skin of winter melon is stronger than the flesh to promote urination and remove dampness, and is often used to reduce serum lipids and promote weight-loss.

ⁱ Yoshitaka et al. *Association of Usual Sleep Duration with Serum Lipid and Lipoprotein Levels*. 2003.

ⁱⁱ Robert D. Vorona, et al. *Overweight and Obese Patients in a Primary Care Population Report Less Sleep Than Patients With a Normal Body Mass Index*. *Arch Intern Med*. 2005;165:25-30.

ⁱⁱⁱ Hamid R Farshchi, et al. *Beneficial metabolic effects of regular meal frequency on dietary thermogenesis, insulin sensitivity, and fasting lipid profiles in healthy obese women*. *American Journal of Clinical Nutrition*, Vol. 81, No. 1, 16-24, January 2005.

^{iv} *Ibid*.

^v Cheng Zhi-Qing. *Chinese medicine prevention and treatment of hyperlipidemia*. People's Medicine Publishing House, 2002: 100.

^{vi} *AJCN*, November 2000; 71: 1085-1094.

^{vii} *Ibid*. 100.

^{viii} *Ibid*. 100.

^{ix} Ni Shi-Mei, et al. *Chinese Medicine Food Therapy*. China Chinese Medicine Publishing House, Beijing, 2004: 71.

Review Exercises for Personal Enrichment

Answers on the Next Page (This is not the course quiz)

High Cholesterol & Dietetics, #2

1. The stool...

- A. should not be sticky
- B. should be in a large quantity and easy to pass
- C. should be thick, formed but soft, and in one long piece that does not float
- D. All of the above

2. One should...

- a. eat trans fatty acids
- b. restrict caloric intake on average to 1480 kcals
- c. both A and B

3. Pecans, almonds, walnuts, hazelnuts, peanuts and pistachios...

- a. improve serum lipid profiles, reducing LDL and increasing HDL.
- b. cause both high cholesterol and high triglycerides.
- c. Neither A nor B

4. Sunflower seeds...

- a. expel dampness and reduce serum lipids.
- b. moisten the Lung and pacify the Liver.
- c. are anthelmintic (anti-parasitic to worms).
- d. all of the above

Answers to Review Exercises

1. The stool...

- A. should not be sticky
- B. should be in a large quantity and easy to pass
- C. should be thick, formed but soft, and in one long piece that does not float
- D. All of the above

answer: D

2. One should...

- a. eat trans fatty acids
- b. restrict caloric intake on average to 1480 kcals
- c. both A and B

answer: b

3. Pecans, almonds, walnuts, hazelnuts, peanuts and pistachios...

- a. improve serum lipid profiles, reducing LDL and increasing HDL.
- b. cause both high cholesterol and high triglycerides.
- c. Neither A nor B

answer: a

4. Sunflower seeds...

- a. expel dampness and reduce serum lipids.
- b. moisten the Lung and pacify the Liver.
- c. are anthelmintic (anti-parasitic to worms).
- d. all of the above

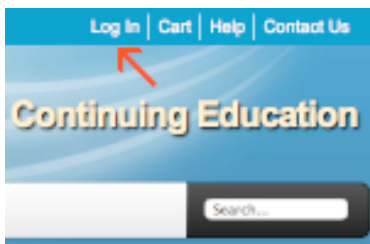
answer: d

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