

Essential Treatments in Cardiovascular Chinese Medicine 1: Hyperlipidemia

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Dr. Anika Niambi Al-Shura, BSc., MSOM, Ph.D

Continuing Education Instructor

Niambi Wellness

Tampa, FL

Medical Illustrator: Samar Sobhy



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DEDICATION

The energy and effort behind the research and writing of this textbook is dedicated to my son, Khaleel Shakeer Ryland. May this inspire and guide you through your journey in your medical studies, career, and life.

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INTRODUCTION



The companion course which is required for study with this textbook edition can be found on the Elsevier website and at www.niambiwellness.com.

APPROVING AGENCIES



The course with this textbook is entitled, Integrative Hyperlipidemia Treatments in Cardiology.

This course is approved by the National Certification Commission for Acupuncture and Oriental Medicine (NCCAOM), and is listed as course #1053-005 for 5 PDA points.

This course is approved by the Florida State Board of Acupuncture, and is listed as course #20-334885 for 5 CEU credits.

COURSE DESCRIPTION

This course covers the basic Western medicine and Traditional Chinese Medicine sciences of blood lipids, clinical significance, differentiations, diagnoses, treatment principles and methods.

COURSE OBJECTIVES

- Describe the basic etiology of lipoprotein disorders, including genetic disorders.

- Describe the clinical presentations of lipoprotein disorders as a sign of cardiovascular diseases.
- Describe Western medicine and Traditional Chinese medicine prescriptions for lipoprotein disorders.
- Describe the suggested medicated diet for patients on a treatment course.

CHAPTER 1

Etiology of Lipoprotein Disorders in Chinese Medicine and Western Medicine

CHAPTER OBJECTIVES

After studying this chapter, you should be able to:

1. Explain the Chinese medicine classification of lipoprotein disorders.
2. Explain the Western medicine perspective on lipoprotein disorders.
3. Describe the genetic subtypes of familial hypercholesterolemia (FH).
4. Describe the genetic apolipoprotein isoform mutations and their role in lipoprotein disorders and cardiovascular diseases.

1.1 PART 1: INTEGRATIVE PERSPECTIVE

1.1.1 Lipoprotein Disorders in Chinese Medicine

Category	Sub categories	Classification
–Tan zhuo –Xue yu –Xuan yuan	Headache, strokePalpitation, obstruction, Vertigo	–Blood stasis –Turbid phlegm obstruction.
Lipoprotein disorders may be generalized as a deficiency of the liver, spleen and kidney. Liver overaction upon the spleen results in chronic digestive problems.		

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1.1.2 Lipoprotein Disorders in Western Medicine

The lipid transport system moves lipids from the hepato-biliary and gastro-intestinal system to areas of the body where it is needed to produce certain hormones.

1. What factors commonly cause lipoprotein disorders?

Log on and complete the companion course at www.niambowellness.com for the answers.

1.1.2.1 Hepatic and Intestinal Pathways

Cholesterol (VLDL) is sent from the liver into the small intestine for chylomicron processing.

2. What is the next step?

Log on and complete the companion course at www.niambowellness.com for the answers.

1.1.2.2 Renal and Hepatic Disorders

Patients with chronic renal failure often have elevated triglyceride levels with a low HDL.

3. What problems to patients with glomerular nephritis have?

Log on and complete the companion course at www.niambowellness.com for the answers.

1.2 PART 2: GENETIC DETERMINANTS

1.2.1 Familial Hypercholesterolemia

These genetic determinants include a predisposition for accumulation of triglycerides, LDL, and cholesterol at specific sites on the body.

4. What three types of organ disorder do they commonly cause?

Log on and complete the companion course at www.niambowellness.com for the answers.

Type I Familial hyperchylomicronemia
<ul style="list-style-type: none"> –Lipoprotein lipase (LPL) deficiencies –Elevations in triglycerides –Reduced HDL levels.
Type II Familial hypercholesterolemia
<ul style="list-style-type: none"> –PCSK9 mutations with elevated cholesterol levels –LDL-R gene defect with elevated LDL levels –Apo B gene defects and high elevations of LDL –Linked to coronary artery disease –Prevalence in the U.S. African Americans
Type III Familial hyperlipoproteinemia
<ul style="list-style-type: none"> –Apo B gene defects –PCSK9 mutations, –LDLRAP1 mutations –ABCG 8 mutations –Excess liver VLDL makes excess cholesterol –Xanthomas –High cholesterol –Metabolic syndrome
Type V Familial hyperlipoproteinemia
<ul style="list-style-type: none"> –Combination of type I and IV –Splenomegaly –Xanthomas

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1.2.2 Apolipoprotein B (Apo B) Isoforms B100 and B48

Apo B100	–Elevated levels due to coronary artery disease due to Staphylococcus aureas, leaving cholesterol streaks.
Apo B48	–Excess in chylomicrons raises LDL levels and complicates Diabetes Mellitus treatment.
Apolipoprotein E (Apo E)	E2: slow fat metabolism, increased risk of coronary artery disease
	E3: neutral allele
	E4: atherosclerosis, sleep apnea, ischemic cerebrovascular disease

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What are three significant factors related to Apo B isoforms?

5. _____
6. _____
7. _____

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NOTES

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CHAPTER 2

Western Medicine Examination and Diagnosis of Lipid Disorders

CHAPTER OBJECTIVES

After studying this chapter, you should be able to:

1. Explain the steps during the physical examination.
2. Explain what possible symptoms may be reported by the patient.
3. List the common tests done in the lipid panel and the values.

2.1 PART 1: EXAMINATION

2.1.1 Visual Observation

Search for lipid accumulation on the face and areas of the body.

1. Where should you pay the most attention?

Log on and complete the companion course at www.niambiwellness.com for the answers.

2.1.2 Inspection

Area	Possible symptoms
Head	Dizziness, distended feeling and heavy feeling
Eyes	Xanthomas
Mouth	Sticky taste sensation and greasy tongue coating
Emotions	Moody and restlessness
Limbs	Pain, numbness and tingling
Others	Hormonal problems and weight gain

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- A. Which areas should be considered during the patient narrative?
- B. Which areas should be considered during physical examination?

2.1.3 Physical Examination

Measure the waist circumference and weight.

2. What body shape is considered an example of cardiovascular problems?

Log on and complete the companion course at www.niambiwellness.com for the answers.

2.1.4 Blood Pressure

Elevated levels can indicate possible chronic hypertension.

3. What can patients do at home to manage symptoms?

Log on and complete the companion course at www.niambiwellness.com for the answers.

2.2 PART 2: DIAGNOSIS

Lipid type	mg/dL	mmol/L	Interpretation
Total cholesterol (TC)	<200	<11.1	Normal
	200–239	11.1–13.3	Borderline
	>240	>13.3	High
LDL	<100	<5.5	Normal
	100–129	5.55–7.15	Good
	130–159	7.15–8.82	Borderline
	160–189	8.82–10.5	High
	>190	>10.5	High risk
HDL	<40	<2.21	High risk
	41–59	2.21–3.27	Borderline
	60	3.27	Good

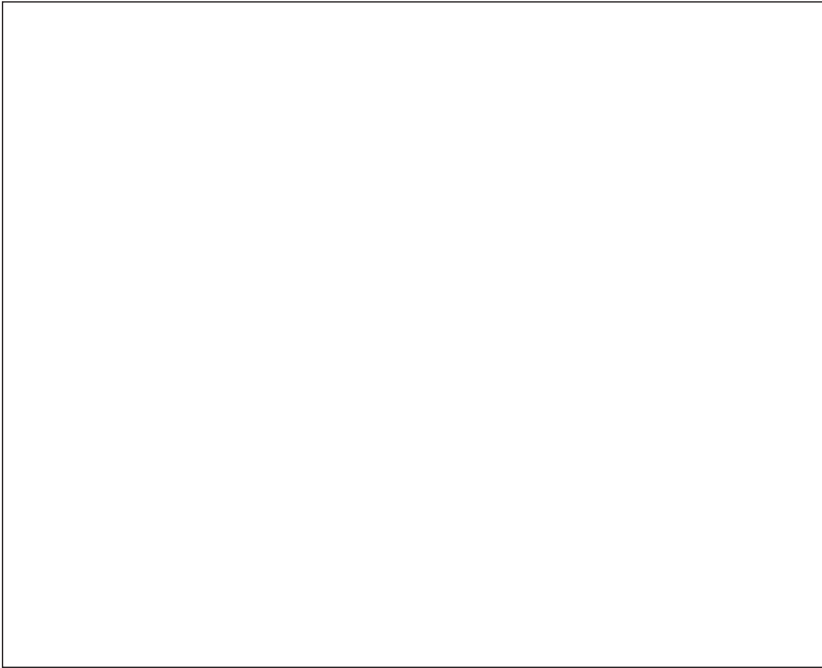
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The lipid panel provides information on TC (total cholesterol), LDL (low-density lipoprotein), and HDL (high-density lipoprotein).

4. What do these tests help with?

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For chapter 2 tutorial log on at www.niambiwellness.com to access the companion course for module 2.

CHAPTER 3

Stages of Lipoprotein Disorders and Syndrome Differentiation in TCM

CHAPTER OBJECTIVES

After studying this chapter, you should be able to:

1. Explain the clinical presentations for stage 1.
2. Explain the clinical presentations for stage 2.
3. Explain the clinical presentations for stage 3.

In Chinese medicine, acquired lipoprotein disorders are the result of liver, spleen, and kidney deficiencies and can develop in stages.

3.1 STAGE 1: DEFICIENCY OF LIVER AND KIDNEY YIN

Clinical Presentations	Blurred vision, irritability, dizziness, soreness and weakness of the limbs, low back knees, vertigo, tinnitus, insomnia, forgetfulness, dream filled sleep and poor appetite
Tongue	Scanty fur
Pulse	Thready and tight

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Deficient kidney yin fails to nourish the liver yin.

1. What could liver yang hyperactivity and qi stagnation contribute to or directly cause?

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3.2 STAGE 2: DAMPNESS RETENTION LEADING TO DAMP HEAT

Clinical Presentations	Irritability, depression, headache or head distention, bitter and dry mouth, poor appetite, heat sensation in the chest, heavy body feeling, lower abdominal pain, low back pain, false sensation of urinary urgency with dark scanty urine and dry constipation
Tongue	Pale with yellow greasy coat
Pulse	Rolling or smooth

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Spleen and kidney yang deficiency leads to excess fluid retention in the body. Fluid stagnates in the interstitium, insulating, accumulating precipitation, and warmed by body heat.

2. What is the unfavorable result?

Log on and complete the companion course at www.niambiwellness.com for the answers.

3.3 STAGE 3: PHLEGM STAGNATION AND STASIS

Clinical Presentations	Obesity, dizziness, chest fullness, abdominal distension, heavy head, heavy body sensation, phlegm accumulation in the sinuses prompting drawing and spitting, tinnitus, bitter mouth taste with a sticky feeling in the mouth with need to drink more water and poor appetite
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Spleen and kidney yang deficiency leads to excess fluid retention and lin syndrome.

3. What does the dampness lead to?

Log on and complete the companion course at www.niambiwellness.com for the answers.

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For chapter 3 tutorial log on at www.niambiwellness.com to access the companion course for module 2.

Module Review Questions

1. Explain the steps during the physical examination.
2. Explain what possible symptoms may be reported by the patient.
3. List the common tests done in the lipid panel and the values.
4. Explain the clinical presentations for stage 1.
5. Explain the clinical presentations for stage 2.
6. Explain the clinical presentations for stage 3.

Log on at www.niambiwellness.com to access the companion course and quiz for Module 2.

CHAPTER 4

Actions of Lipoprotein Prescriptions in Chinese Medicine and Western Medicine

CHAPTER OBJECTIVES

After studying this chapter, you should be able to:

1. Explain the common action of Western medicine drugs for lipoprotein disorders.
2. Discuss a primary treatment principle based on differentiations in Chinese medicine.
3. Compare and contrast the medicine actions between Chinese medicine and Western medicine.

4.1 PART 1: WESTERN MEDICINES USED FOR LIPOPROTEIN DISORDERS

Medicine	Action
Ezetimibe	Lowers cholesterol absorption in the small intestine.
Statins	Inhibits HMG-CoA reductase enzyme for cholesterol reduction.
Bile acid sequestrants	Prevents fat absorption in the intestines.
Niacin	Helps break down fat tissue.
Fibrate	Combines with statins to treat high cholesterol.

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1. What are the side effects of ezetimibe?

2. What are the side effects of statins?

3. What are the side effects of bile acid sequestrants?

4. What are the side effects of niacin fibrate?

Log on and complete the companion course at www.niambiwellness.com for the answers.

4.2 PART 2: CHINESE MEDICINES USED FOR LIPOPROTEIN DISORDERS

Chai hu shu gan san	
Reduces liver hyperactivity, relieves body distention and nourishes kidney yin and blood.	
Buplerum	Soothes the liver and activates qi
Nutgrass flatsedge rhizome	Soothes the liver and activates qi
Szechuan lovage rhizome	Circulates blood and activates qi
Tangerine peel	Regulates qi
Immature bitter orange	Regulates qi
Peony root	Nourishes blood and tonifies liver
Licorice root	Nourishes blood and tonifies liver

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5. What are the contraindications of this formula?

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Weicao (capsule) tang	
Reduces blood lipids and increases lipid metabolism.	
Clematis root	Dredges collateral and relieves pain
Cassia seed	Clears liver and nourishes kidneys
Motherwort	Activates blood
Lysimachia	Clears heat and removes toxicity
Crude rhubarb	Dredges the bowels
Peony root	Nourishes blood and tonifies liver
Licorice root	Nourishes blood and tonifies liver

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6. What are the contraindications of this formula?

Log on and complete the companion course at www.niambiwellness.com for the answers.

Eliminate Blood Lipid Formula	
Reduces blood lipids for weight loss.	
Glossy privet fruit	Replenishes yin and reduces dampness
Fleece flower root	Dredges bowels and reduces dampness
Siberian solomon seal rhizome	Tonifies spleen and reduces dampness
Fragrant Solomon seal rhizome	Nourishes yin and reduces dampness
Dan shen root	Calms the mind and clear heat
Chinese angelica	Deficiency of heart and spleen
Spine date seed	Calms the mind and nourishes heart

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7. What are the contraindications of this formula?

Log on and complete the companion course at www.niambowellness.com for the answers.

Shen qi wan	
Helps to tonify and strengthen the kidneys.	
Buplerum	Soothes the liver and activates qi
Nutgrass flatsedge rhizome	Soothes the liver and activates qi
Szechuan lovage rhizome	Circulates blood and activates qi
Tangerine peel	Regulates qi
Immature bitter orange	Regulates qi
Peony root	Nourishes blood and tonifies liver
Licorice root	Nourishes blood and tonifies liver

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8. What are the contraindications of this formula?

Log on and complete the companion course at www.niambowellness.com for the answers.

Reduce Blood Lipid Formula	
Reduces LDL levels.	
Glossy privet fruit	Replenishes yin and reduces dampness
Wolfberry fruit	Nourishes kidneys and liver and reduces lipids

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9. What are the contraindications of this formula?

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4.3 PART 3: MEDICATED DIET PLAN

In the companion course, general recipes are described as a base for including medicinal herbs later.

Breakfast savory: hai zao, kun bu, tian ma and jue ming zi
Breakfast sweet: shanza and gou qi zi
Lunch savory: hai zao, kun bu, tian ma, yu jin, suan, he shou wu
Lunch sweet: shanza and gou qi zi
Dinner savory: hai zao, kun bu, tian ma, yu jin, suan and he shou wu
Dinner sweet: shanza and gou qi zi, tian ma, yu jin, suan, he shou wu

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10. Which Chinese medicine formula(s) in section 4.2 may be appropriate with this medicated diet recipe plan?

Log on and complete the companion course at www.niambiwellness.com for the answers.

Breakfast savory: hai zao and ju hua
Breakfast sweet: shanza, gou qi zi, da zao and dang shen
Lunch savory: hai zao and ren shen
Lunch sweet: shanza, gou qi zi, da zao and dang shen
Dinner savory: hai zao, long gu, mu li and tian ma
Dinner sweet: shanza, gou qi zi, da zao and dan shen

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11. Which Chinese medicine formula(s) from section 4.2 may be appropriate with this medicated diet recipe plan?

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For chapter 4 tutorial log on at www.niambowellness.com to access the companion course for module 4.

Module Review Questions

1. What are common actions of Western medicine drug for lipoprotein disorders?
2. What may be the differentiations with each of the formulas for lipoprotein disorders?
3. Which formulas may be appropriate for which herb combinations in the medicinal diet plans?

Log on at www.niambowellness.com to access the companion course and quiz for Module 3.

This also concludes the Integrative Anatomy and Pathophysiology in TCM Cardiology course. It is strongly suggested that you log onto the courses at the companion websites to review the course modules. Next, submit course documents and complete the final exam.

Upon passing the exam, you will receive completion certificates that include your name and practice license number, along with the specific number of credit hours awarded for this course. Electronic transmission of CEU and PDA credits will be sent to NCCAOM and your state medical board.