chapter **58**

Drugs for Dyslipidemia

Objectives

AFTER STUDYING THIS CHAPTER, THE STUDENT WILL BE ABLE TO:

1. Discuss the role of dyslipidemia in the etiology of atherosclerosis.
2. Identify sources and functions of cholesterol and triglycerides.
3. Describe dyslipidemic drugs in terms of mechanism of action, indications for use, major adverse effects, and nursing process implications.
4. Teach clients pharmacologic and nonpharmacologic measures to prevent or reduce dyslipidemia.

Critical Thinking Scenario

During a routine physical examination, 26-year-old William Halls is diagnosed with dyslipidemia. His father died at 46 years of age of a massive myocardial infarction (MI). William jogs 3 miles three to four times a week. He eats out, mostly at fast-food places. He is very serious when he listens to the doctor explain his diagnosis. He responds by asking, "Does this mean I am going to die young like my dad?"

Reflect on:

- The emotional impact of this diagnosis for a young man, in light of his family history.
- The underlying pathophysiology of atherosclerosis. What are possible consequences of atherosclerosis other than MI?
- Ways to explain the significance of laboratory values (cholesterol, low-density lipoproteins, high-density lipoproteins, triglycerides).
- A plan for teaching and follow-up regarding lifestyle modification.

OVERVIEW

Dyslipidemic drugs are used in the management of clients with elevated blood lipids, a major risk factor for atherosclerosis and vascular disorders such as coronary artery disease, strokes, and peripheral arterial insufficiency. These drugs have proven efficacy and are being used increasingly to reduce morbidity and mortality from coronary heart disease and other atherosclerosis-related cardiovascular disorders. To understand clinical use of these drugs, it is necessary to understand atherosclerosis, characteristics of blood lipids, and types of blood lipid disorders.

ATHEROSCLEROSIS

Atherosclerosis is a major cause of ischemic heart disease (eg, angina pectoris, myocardial infarction), heart failure, stroke, peripheral vascular disease, and death (see Chapters 53 and 57). It is a systemic disease characterized by lesions in the endothelial lining of arteries throughout the body. These lesions (called fatty plaques or atheromas) start with injury to the endothelium and involve progressive accumulation of lipids (eg, cholesterol), vascular smooth muscle cells, macrophages, lymphocytes, and connective tissue proteins. Over time, the lesions interfere with nutrition of the blood vessel lining, the normally smooth endothelium becomes roughened, and thrombi, necrosis, scarring, and calcification occur. As the lesions develop and enlarge, they protrude into the lumen of the artery, reduce the size of the lumen, reduce blood flow, and may eventually occlude the artery. Severely impaired blood flow leads to damage or death of tissue supplied by the artery. Clinical manifestations vary according to the arteries involved and the extent of vessel obstruction.