

# chapter 64

## Drugs Used in Oncologic Disorders

### Objectives

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

1. Contrast normal and malignant cells.
2. Describe major types of antineoplastic drugs in terms of mechanism of action, indications for use, administration, and nursing process implications.
3. Discuss the rationales for using chemotherapeutic drugs in combination with each other, with surgical treatment, and with radiation therapy.
4. Discuss common and potentially serious adverse drug effects.
5. Describe pharmacologic and nonpharmacologic interventions to prevent or minimize adverse drug effects.
6. Promote reduction of risk factors for development of cancer and early recognition of cancer signs and symptoms.
7. Manage or assist clients/caregivers in managing symptoms associated with chemotherapy regimens.

### Critical Thinking Scenario

Georgia Sommers, a 39 year-old mother of 4, is diagnosed with breast cancer that was detected by routine mammography. She is recovering from a modified radical mastectomy when she comes to the clinic to discuss additional treatment with chemotherapy with the oncologist. He explains that she will receive combination therapy with three drugs on a cycle of every 4 weeks.

### Reflect on:

- ▶ Possible reactions of Ms. Sommers to a diagnosis of cancer. What is the role of the nurse during the period of initial diagnosis?
- ▶ How will you assess Ms. Sommers concerns regarding chemotherapy?
- ▶ What are the benefits of combination (using more than one drug) therapy?
- ▶ What impact do you think chemotherapy might have on Ms. Sommers' ability to function normally and meet normal demands of life?

### OVERVIEW

Oncology is the study of malignant neoplasms and their treatment. Drugs used in oncologic disorders include those used to kill, damage, or slow the growth of cancer cells, and those used to prevent or treat adverse drug effects. Antineoplastic drug therapy, commonly called *chemotherapy*, is a major treatment modality for cancer, along with surgery and radiation therapy. To aid understanding of chemotherapy, selected characteristics of cancer are described below.

### NORMAL AND MALIGNANT CELLS

*Normal* cells reproduce in response to a need for growth or tissue repair and stop reproduction when the need has been

met. The normal cell cycle is the interval between the “birth” of a cell and its division into two daughter cells (Fig. 64–1). The daughter cells may then enter the resting phase ( $G_0$ ) or proceed through the reproductive cycle to form more new cells. Normal cells are also well differentiated in appearance and function and have a characteristic lifespan.

*Malignant cells* serve no useful purpose in the body. Instead, they occupy space and take blood and nutrients away from normal tissues. They grow in an uncontrolled fashion and avoid the restraints (eg, contact with other cells) that stop the growth of normal cells. They are undifferentiated, which means they have lost the structural and functional characteristics of the cells from which they originated. They are loosely connected, so that cells break off from the primary tumor and invade adjacent tissues. Loose cells also enter blood and lymph vessels, by which they circulate through the