**CHAPTER 32 / Nursing Care of Clients with Hematologic Disorders**

**CHART 32–3 LINKAGES BETWEEN NANDA, NIC, AND NOC**

The Client with Leukemia

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<td>• Tissue Integrity: Skin and Mucous Membranes</td>
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- Avoiding foodborne illnesses by washing fruits and vegetables, proper food storage
- Dental hygiene measures
- Avoiding immunizations
- Manifestations to report: fever, chills, burning on urination, foul-smelling urine, vaginal or rectal discharge, skin lesions
- Avoiding contact sports or strenuous exercise if platelet count is low
- Using an electric razor for shaving, avoiding rectal or vaginal suppositories, vaginal tampons, or enemas
- Increasing dietary fiber and using a bulk-forming laxative as needed to prevent straining
- Avoiding over-the-counter or prescription drugs that interfere with platelet function (see Box 32-11)
- The importance of reporting any bleeding (nosebleeds, rectal bleeding, vomiting blood, excessive menstrual periods, blood in the urine, bleeding gums, bruises, or collections of blood under the skin) or changes in behavior to the health care provider

**Promoting Nutrition**

- Eating several small, low-fat, high-calorie meals and drinking five to eight glasses of water daily
- Reporting continued weight loss, loss of appetite, or inability to eat for 24 hours
- Discussing dietary needs with the dietitian

Assistance with physical care, finances, and transportation may be required following discharge. Refer the client and family to social services, support groups, home care services as needed, and other agencies that can provide needed services (such as local chapters of the American Cancer Society, which can provide hospital beds and transportation for outpatient cancer treatment).

**Nursing Care Plan**

**A Client with Acute Myelocytic Leukemia**

Catherine Cole is a 37-year-old secretary who lives with her husband, Ray, and teenage daughter, Amy, in an apartment in a large metropolitan area. About 2 months ago, Mrs. Cole began to tire easily and experience night sweats several times a week. She also noted that she was pale, bruised easily, and was having heavier menstrual periods. Blood tests ordered by her primary care provider are abnormal. She is admitted for a bone marrow biopsy.

**ASSESSMENT**

Mary Losapio, RN, obtains a nursing history and physical assessment for Mrs. Cole. Mrs. Cole tells her, “I’m so tired, and I have these bruises all over me. I’m so afraid of the results of the bone marrow examination. I don’t know what we will do if I have cancer.” Mrs. Cole clutches her husband’s hand and then begins to cry. Physical assessment data include: Height 64 inches (165 cm), weight 106 lb (48.1 kg); vital signs T 100° F, P 102, R 22, BP 130/82. Numerous petechiae scattered over trunk and arms; ecchymoses noted on lower right arm and right calf. Oral mucosa is red, with several small ulcerations in buccal areas.

Blood count shows reduced RBCs, hemoglobin, and hematocrit levels. The WBC is high, with myeloblasts seen on differential. The platelet count is very low. A tentative diagnosis of acute myelogenous leukemia is made.

(continued)
Multiple myeloma is a malignancy in which plasma cells multiply uncontrollably and infiltrate the bone marrow, lymph nodes, spleen, and other tissues. Plasma cells are B-cell lymphocytes that develop to produce antibodies (immunoglobins).

The incidence of multiple myeloma is increasing, with an estimated 48,100 cases diagnosed annually. It affects blacks more than twice as often as whites, and men more frequently than women. The incidence of multiple myeloma increases with age, rarely occurring before age 40. Its cause is unknown (McCance & Huether, 2002). Possible contributing factors include genetic predisposition, oncogenic virus, inflammatory stimuli, and chronic antigenic stimulation.

PATHOPHYSIOLOGY AND MANIFESTATIONS

Malignant plasma cells arise from one clone of B cells that produce abnormally large amounts of a particular immunoglobulin called the M protein. This abnormal protein interferes with normal antibody production and impairs the humoral immune response. It also increases blood viscosity and may damage kidney tubules. As myeloma cells proliferate, they replace the bone marrow and infiltrate the bone itself. Cortical bone is progressively destroyed by tumor growth and enzymes produced by myeloma cells. These enzymes facilitate bone destruction, its infiltration by tumor cells, development of new blood vessels to sustain the tumor, and growth of myeloma cells (McCance & Huether, 2002). Affected bones (primarily the vertebrae, ribs, skull, pelvis, femur, clavicle, and scapula) are weakened and may break without trauma (pathologic fracture).

The disease develops slowly. Manifestations of multiple myeloma are due to its effects on the bone and the impaired immune response due to M protein production. Bone pain is the most common presenting symptom. With progression of the disease, the pain may increase in severity and become more localized. Rapid bone destruction releases calcium from the bone, leading to hypercalcemia and manifestations of neurologic dysfunction, such as lethargy, confusion, and weakness.