

bladder		voiding. Evaluate for hematuria.
Bone marrow	Myelosuppression	Observe for fever (temperature >101° F [38.3° C]). Initiate workup for sepsis as ordered. Administer antibiotics as prescribed. Avoid use of suppositories, rectal temperatures. Institute bleeding precautions. Observe for signs of anemia.

Biologic Response Modifiers

Biologic response modifiers (BRMs) alter the relationship between tumor and host by therapeutically changing the host's biologic response to tumor cells. These agents or interventions may affect the host's immunologic mechanisms (immunotherapy); have direct antitumor activity; or stimulate cell growth, reducing the hematologic toxicity associated with chemotherapy (Fry, Sondel, and Mackall, 2016). Much of the current work in biotherapy is directed toward the use of monoclonal antibodies in the diagnosis and treatment of cancers. Through a complex process, special cells are fused to form a hybrid clone, or hybridoma, that produces antibodies that recognize a single specific antigen—hence the term *monoclonal antibody* (*mono* meaning “one” and *clone* meaning “exact duplicate”). These clones are then frozen, maintained in culture, or grown as tumors in mice to produce large quantities of the antibody. Monoclonal antibodies have several mechanisms of cytotoxic action, but their main effect is exerted on the small molecule inhibitors of the cell surface proteins (Fry, Sondel, and Mackall, 2016). A commonly used monoclonal antibody is rituximab, which directs its effect on the B-cell surface protein CD20 and is used for the treatment of NHL (Fry, Sondel, and Mackall, 2016).

Blood or Marrow Transplantation

Another approach to the treatment of childhood cancer is BMT. Candidates for transplantation are children who have diseases that require high doses of chemotherapy and/or replacement of dysfunctional bone marrow. The conditioning regimen consists of radiotherapy and/or high-dose chemotherapy to rid the body of malignant cells and suppress the immune system to prevent