Immunomodulators, such as azathioprine and its metabolite 6-mercaptopurine (6-MP), are used to induce and maintain remission in children with IBD who are steroid resistant or steroid dependent and in treating chronic draining fistulas. They block the synthesis of purine, thus inhibiting the ability of DNA and RNA to hinder lymphocyte function, especially that of T cells. Side effects include infection, pancreatitis, hepatitis, bone marrow toxicity, arthralgia, and malignancy. Methotrexate is also useful in inducing and maintaining remission in Crohn disease patients who are unresponsive to standard therapies. Cyclosporine and tacrolimus have both been effective in inducing remission in severe steroid-dependent ulcerative colitis. 6-MP or azathioprine is then used to maintain remission. Patients taking immunomodulating medications require regular monitoring of their CBC and differential to assess for changes that reflect suppression of the immune system because many of the side effects can be prevented or managed by dose reduction or discontinuation of medication.

Antibiotics, such as metronidazole and ciprofloxacin, may be used as an adjunctive therapy to treat complications, such as perianal disease or small bowel bacterial overgrowth in Crohn disease. Side effects of these drugs are peripheral neuropathy, nausea, and a metallic taste.

Biologic therapies act to regulate inflammatory and antiinflammatory cytokines. With the emergence of the biologic agents, specifically the use of tumor necrosis factor–alpha (TNF-α) agents, progress has been made in targeting specific pathogenetic mechanisms and achieving a more prolonged clinical response (Szigethy, McLafferty, and Goyal, 2011). TNF-α is believed to influence active inflammation.

Nutritional Support

Nutritional support is important in the treatment of IBD. Growth failure is a common serious complication, especially in Crohn disease. Growth failure is characterized by weight loss, alteration in body composition, restricted height, and delayed sexual maturation. Malnutrition causes the growth failure, and its etiology is multifactorial. Malnutrition occurs as a result of inadequate dietary intake, excessive GI losses, malabsorption, drug/nutrient interaction, and increased nutritional requirements. Inadequate