



Figure 45-1 Sites of action of immunosuppressants. Available immunosuppressants inhibit the immune response by blocking that response at various sites.

immunosuppressive drug therapy, autoimmune disorders, tissue and organ transplantation, and rejection reactions are described.

AUTOIMMUNE DISORDERS

Autoimmune disorders occur when a person's immune system loses its ability to differentiate between antigens on its own cells (called self-antigens or autoantigens) and antigens on foreign cells. As a result, an undesirable immune response is aroused against host tissues. In most instances, the auto-

antigen is a protein. Thus, in rheumatoid arthritis, the antigen is a protein found in joint tissue.

The mechanisms by which autoantigens are altered to elicit an immune response are unclear. Genetic susceptibility and possible "triggering" events such as damage by microorganisms or trauma, similarity in appearance between autoantigens and foreign antigens, or a linkage between a foreign antigen and an autoantigen may be involved. Once an autoantigen is changed and perceived as foreign or "non-self," the immune response may involve T lymphocytes in direct destruction of tissue, production of proinflammatory cytokines that recruit and activate phagocytes, and stimulation