generalized reaction rapidly takes place. Vasoactive amines (principally histamine or a histamine-like substance) are released and cause vasodilation, bronchoconstriction, and increased capillary permeability.

Severe reactions are immediate in onset; are often life threatening; and frequently involve multiple systems, primarily the cardiovascular, respiratory, gastrointestinal, and integumentary systems. Exposure to the antigen can be by ingestion, inhalation, skin contact, or injection. Examples of common allergens associated with anaphylaxis include drugs (e.g., antibiotics, chemotherapeutic agents, radiologic contrast media), latex, foods, venom from bees or snakes, and biologic agents (antisera, enzymes, hormones, blood products).

Nursing Alert

Penicillin allergy is associated with immediate onset (within 1 hour of administration) or accelerated onset (1 to 72 hours after administration) of skin eruption, especially an urticarial rash, or more serious symptoms such as laryngeal edema or anaphylactic shock.

Clinical Manifestations

The onset of clinical symptoms usually occurs within seconds or minutes of exposure to the antigen, and the rapidity of the reaction is directly related to its intensity: the sooner the onset, the more severe the reaction. The reaction may be preceded by symptoms of uneasiness, restlessness, irritability, severe anxiety, headache, dizziness, paresthesia, and disorientation. The patient may lose consciousness. Cutaneous signs of flushing and urticaria are common early signs followed by angioedema, most notable in the eyelids, lips, tongue, hands, feet, and genitalia.

Bronchiolar constriction may follow, causing narrowing of the airway; pulmonary edema and hemorrhage also may occur. Laryngeal edema with severe acute upper airway obstruction may be life threatening and requires rapid intervention. Shock occurs as a result of mediator-induced vasodilation, which causes capillary permeability and loss of intravascular fluid into the interstitial space. Sudden hypotension and impaired cardiac output with poor