Radiation dermatitis is a common side effect of radiation therapy used in cancer treatment. It is characterized by skin inflammation, redness, itching, pain, and sometimes blistering, peeling, or open wounds. It occurs when high-energy radiation damages the skin cells and tissues, leading to an inflammatory response.

Radiation dermatitis can occur during or after radiation therapy, and its severity varies depending on the type, dose, and duration of radiation, as well as the individual's skin sensitivity and ability to heal. It can affect any part of the body that receives radiation, such as the breast, head and neck, abdomen, pelvis, or extremities.

Radiation dermatitis is classified into five grades, ranging from mild erythema (grade 1) to moist desquamation or ulceration (grade 4), with grade 5 indicating necrosis or tissue death. The severity of radiation dermatitis is important not only for the patient's comfort and quality of life but also for the success of radiation therapy.

Mild radiation dermatitis usually resolves within a few weeks after the end of radiation therapy, while more severe cases may take months to heal and may require additional medical interventions. The risk of complications, such as infections or delayed wound healing, increases with higher grades of radiation dermatitis.

Prevention and management of radiation dermatitis are essential components of cancer care. The goal is to minimize the damage to the skin and maximize its ability to recover from radiation therapy. Various interventions have been researched and recommended, such as skin moisturizers, topical steroids, hydrogel dressings, silver-based products, and cooling devices.

Patient education and skin care are crucial in preventing and managing radiation dermatitis. Patients should avoid exposing the treated area to sunlight, heat, friction, and chemicals that may irritate the skin. They should use mild and fragrance-free soaps, avoid scrubbing or rubbing the skin, and pat it dry with a soft towel. They should also wear loose-fitting and soft clothing and avoid tight bras or underwear that may rub against the skin.

Prevention and management strategies should be tailored to the individual's skin sensitivity and radiation dose and should involve patient education and skin care, as well as medical interventions when needed.