The Effect of Aloe Vera Gel/Mild Soap Versus Mild Soap Alone in Preventing Skin Reactions in Patients Undergoing Radiation Therapy

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Purpose/Objectives: To determine whether the use of mild soap and aloe vera gel versus mild soap alone would decrease the incidence of skin reactions in patients undergoing radiation therapy.

Data Sources: Prospective, randomized, blinded clinical trial.

Setting: Radiation therapy outpatient clinic in a cancer center affiliated with a major teaching medical facility.

Sample: The mean age of the participants was 56 years. The group consisted of Caucasians (74%) and African Americans (26%). The ethnic mix was non-Hispanic (65%) and Hispanic (35%).

Methods: Prophylactic skin care began on the first day of radiation therapy. Patients cleansed the area with mild, unscented soap. Patients randomized into the experimental arm of the trial were instructed to apply aloe vera gel to the area at various intervals throughout the day.

Findings: At low cumulative dose levels ≤ 2,700 cGy, no difference existed in the effect of adding aloe. When the cumulative dose was high (> 2,700 cGy), the median time was five weeks prior to any skin changes in the aloe-soap arm versus three weeks in the soap only arm. When the cumulative dose increases over time, there seems to be a protective effect of adding aloe to the soap regimen.

Implications for Nursing Practice: Skin products used to treat radiation dermatitis vary among institutions. Nurses should be aware that some patients may be predisposed to skin problems. Nurses must be aware of newly developed products and research regarding these products so that effective treatment can be instituted.

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Key Points . . .

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Almost all patients undergoing external beam radiation therapy are expected to develop acute skin reactions (e.g., dryness, itching, erythema, hair loss, desquamation) during the course of treatment. Early literature from the 1930s and 1950s suggested that skin type might affect ionizing radiation dermatitis in the same way as ultraviolet radiation. Based on this premise, more marked reactions in fair, blue-eyed blondes or redheads were expected. However, recent authors such as Lokkevik, Skovlund, Reitan, Hannisdal, and Tanum (1996) and Halperin, Gaspar, George, Darr, and Pinnell (1993) reported no differences in radiodermatitis related to skin type. Increased skin reactions are expected in patients with preexisting skin disorders, in patients undergoing chemotherapy, in areas of skin folds, or in areas where moisture may contribute to the irritation (e.g., the perineum). Frequent nursing assessment and intervention, however, are required for all patients.

The incidence of radiodermatitis has decreased with megavoltage equipment, as Dini et al. (1993) noted, but even so, radiodermatitis continues to influence the therapeutic program and impair patients’ quality of life. Ratliff (1990) suggested that preventive interventions and early management could minimize the severity of the skin reaction. According to Sitton (1992), to prepare for these untoward skin reactions and attempt to minimize irritation of the treated skin, patients typically are told to gently wash the irradiated skin with mild soap and pat it dry. They are cautioned to avoid trauma and sun exposure to the area. McGowan (1989) and Walker (1982) further recommended loose-fitting clothing made of nonirritating fabrics for daily wear.

Recommendations for skin products vary from among radiation department and physicians as determined by Barkham.