

Managing Radiation Dermatitis with Breast Cancer

Introduction

One in eight women will be diagnosed with breast cancer. Every two minutes a woman is diagnosed and every thirteen minutes one will die. Breast cancer is more commonly diagnosed in women than in men. There's almost 3 million survivors who are alive today (National Breast Cancer Foundation, 2016). Radiation dermatitis is a common side effect of radiation. This occurs more often in breast cancer patients because breast tissue is extra radiosensitive.

Grades of Radiation Dermatitis

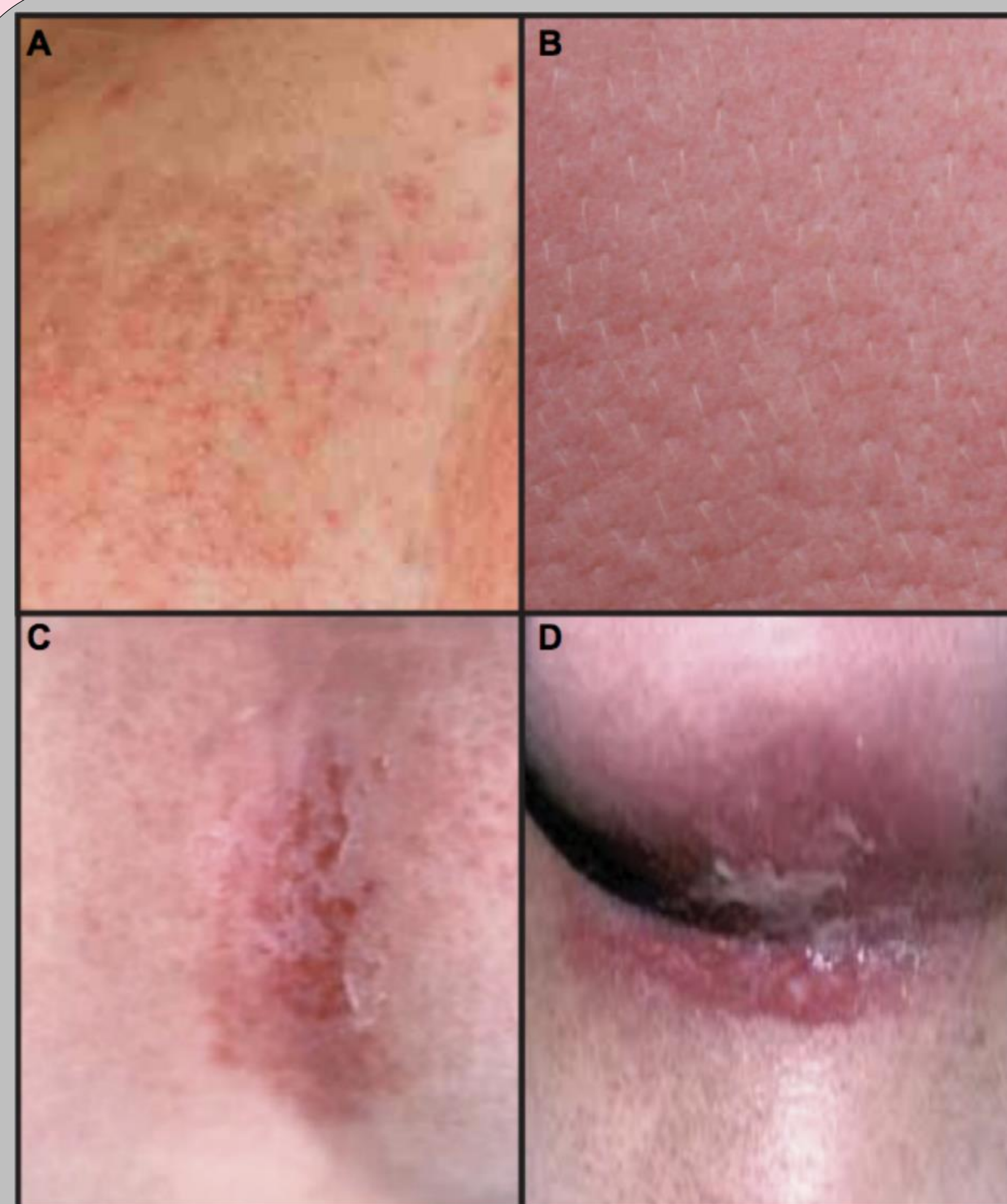
- Grade 1 (Figure A) consists of a mild, faint erythema that usually occurs within hours of the initial radiation treatment. These are does between 6-10 Grey. After 10-14 days, it could progressively get worse and resemble a "sunburn". Symptoms could include dryness, burning, pruritus (severe itching), tenderness, and hyperpigmentation. Dry desquamation occurs between 20-25 Grey, which is when the skin starts to peel and appears scaly or flaky (Pace et al., 2013).
- Grade 2 (Figure B) occurs at doses above 30 Grey. This is when the erythema is persist and there's superficial reddening of the skin. Patchy, moist desquamation can occur in the folds and creases of the skin accompanied by pain (Pace et al., 2013).
- Grade 3 (Figure C) consists of moist desquamation that occurs in areas other than the folds and creases of the skin. The patches start off small but continue to grow over time. Another characteristic of this phase is serous fluid draining, also known as "weeping" (Pace et al., 2013).
- Grade 4 (figure D) consists of hemorrhaging, skin necrosis (where most or all of the cells in an organ or tissue begins to die), spontaneous bleeding, and ulcerations (Pace et al., 2013).

Methods

- Three-dimensional treatment versus two-dimensional. Two-dimensional treatment is an older technique that uses one axial cut across the center of the breast. Three-dimensional accounts for the contours of the breast above and below the axis.
- Intensity-modulated radiation therapy (IMRT) uses linear accelerators that conform to the shape of the tumor which means higher doses can be delivered (Kole, Kole, & Moran, 2017).
- Putting a large-breasted patient in a prone position for treatment improves dose distribution.
- Topical ointments such as steroidal and nonsteroidal agents have proven to be effective in reducing radiation dermatitis.
- Barrier products have proven to reduce or prevent radiation dermatitis.

Results

Three-dimensional (3D) technique helps reduce "hot spots" which are areas that are receiving more radiation than the prescribed dose. This also reduces the risk for radiation dermatitis. Since intensity-modulated radiation therapy (IMRT) can conform to the shape of the tumor it reduces exposure to the surrounding healthy tissues. Putting patients in a prone position when using 3D/IMRT reduces "hot spots" and lowers the risk for moist desquamation. Numerous topical ointments have proven to reduce rates of radiation dermatitis such as jaungo, betamethasone, hydrocortisone 1% cream, and more. As well as barrier products have proven to do the same, such as 3M Cavilon no-sting barrier film and mepitel film (Kole, Kole, & Moran, 2017).



<https://pdfs.semanticscholar.org/5889/956b42848c3d233e6a6a84abb8dfb520c903.pdf>

Conclusion

Radiation dermatitis is one of the most common side effects resulting from radiation therapy. In the United States, breast cancer is very common, therefore, precautions should be taken into consideration when treating patients. Additional research could be done on what other techniques and topical ointments could help with radiation dermatitis. There was even an article about the effective of laughter therapy preventing dermatitis.

References

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