

# The Use of Olivamine\* Containing Advanced Skin Care Products During Radiation Therapy

## INTRODUCTION

Radiation therapy is commonly used to treat many forms of cancer. Radiation dermatitis can range from a mild burning, similar to a sunburn to severe wet desquamation. This can lead to treatment interruptions, decreased quality of life and skin infections. Typically, radiation damage appears 10-14 days after beginning therapy. A compound effect, it continues to increase in severity until about 10 days after the completion of therapy. 92-96% of all women status post lumpectomy for breast cancer will experience some form of skin reaction. Fewer than 10% will experience moist desquamation. Those with other forms of cancer have about a 40% incidence of skin reaction.

Radiation Therapy (RT) is targeted at the cellular and nuclear membranes and the DNA molecules inside the cancer cells, rendering them unable to divide and proliferate. RT creates free radicals in deep tissue, specifically at those cancer cells. Collateral damage is sometimes seen on the outermost layers of the skin, the epidermis, presenting as dermatitis and other skin maladies. The first visual sign of this damage is darkening of the epidermis, as the melanocytes are found in the dermal-epidermal junction and can be damaged with radiation. People who have received chemotherapy along with radiation therapy are more susceptible to a skin reaction. Of note, the higher the dose of radiation therapy, the greater the risk of a skin reaction.

### ONCOLOGY NURSES SOCIETY (ONS) CLASSIFICATION FOR SKIN REACTION

- 0 - Normal skin within a radiation field
- 1 - Faint or dull erythema, follicular reactions
- 2 - Bright erythema
- 3 - Dry desquamation
- 4 - Small to moderate wet desquamation
- 5 - Confluent moist desquamation
- 6 - Ulcerations, hemorrhage or necrosis

\*Olivamine containing products from Medline Industries, Inc, Mundelein, IL

## METHODOLOGY

Patients undergoing radiation therapy volunteered to participate in a topical skin care study. The objective of the study was to improve skin condition. Patients used nourishing, Olivamine containing skin care products; cleansing lotion, antimicrobial cleanser, treatment cream and a silicone-based barrier. There were 18 patients that participated, 17 females with breast cancer and subsequent radiation therapy and 1 gentleman who underwent RT for lung cancer.

Olivamine is a proprietary blend of amino acids, antioxidants and vitamin co-factors (B3 and B6) that play a vital role in basic cellular construction and protection. The three most abundant amino acids in collagen, glycine, L-proline and L-cysteine have been combined with the most potent antioxidants, L-taurine and hydroxytyrosol, and with methylsulfonylmethane (MSM) that may slow the conduction of pain fibers.

To create Olivamine, each individual element has been carefully blended and then "actuated" with a patented photo acoustic resonance laser to make them "bioavailable". This patented laser treatment alters the molecular structure rendering the amino acids more bioavailable.

Olivamine has been placed into a unique delivery system. The peptide is supported by omega 3 and 6 essential fatty acids, vitamins A and D3 and a sophisticated silicone system that supports the delivery system while protecting the skin from excessive transepidermal water loss (e-TEWL).

This new line of products also uses natural oils, organic aloe vera and citrus vanilla oils to provide a pleasant fragrance. Even though it is long thought that a fragrance should be contraindicated in skin care products, especially with the oncology population, this natural, mild blend is at 0.01% and was welcomed in this study group of oncology patients.

### CASE STUDY 1

09-13-04

ONS Score: 0

60 year old female in otherwise good health, lobular cancer of left breast



10-06-04

ONS Score: 0



## RESULTS

Upon weekly skin evaluations conducted by the principle investigator, the skin remained of good quality and within the lowest ranges of irritation based on the Oncology Nurses Society's (ONS) Classification for Skin Reactions. This classification system ranges from 0 to 6. (see chart) Of the 18 patients evaluated, 16 scored the best possible score, a "zero" or "one". There was one patient that had a score of 1.5 and one patient briefly scored a 2.5, that patient returned to score of 1.5 with continued appropriate use of the study products. The scores represent a significant improvement as compared to the national average of skin injury following radiation therapy. The national average of up to 96% of all women with breast cancer report skin reaction, as where with our study, only 11% showed any signs of dermatitis. This study also included one male with lung cancer.

## DISCUSSION

According to the American Cancer Society, the second most common cause of death in 2002 was cancer, second only to heart disease. It is estimated that among females, breast cancer will account 15% of all cancer related deaths, yet represent 32% of all cancers in 2005. Because of this incidence, we are seeing more breast cancer patients and survivors, and we must be prepared to address the radiation induced dermatitis that is likely to affect nearly 9 out of every 10 patients. There is treatment for breast cancer, including radiation and chemotherapy, that will help cancer patients become cancer survivors. The National Coalition for Cancer Survivorship has defined a cancer survivor as "From the time of its discovery and for the balance of life, an individual diagnosed with cancer is a survivor."

## CONCLUSION

Olivamine containing advanced skin care products had a significant benefit to those undergoing radiation therapy by lessening the likelihood of treatment interruption. Based upon the success of this preliminary study, further investigation with these products into the prevention and treatment of skin reactions is warranted.

## REFERENCES

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09-24-04

ONS Score: 0



10-27-04

ONS Score: 0



### CASE STUDY 2

10-21-04

ONS Score: 0

After 17 Radiation Treatments@180 cGy each

80 year old male with lung cancer, chemotherapy and radiation simultaneously



10-21-04

ONS Score: 0

