The Challenge of Irradiated Skin: Treatment of Moist Desquamation
Using an Absorbent Soft Silicone Dressing with Silver†

OBJECTIVES:
• Understand cutaneous manifestations resulting from radiation therapy.
• Discuss treatment options for irradiated skin.
• Examine clinical case studies using an absorbent soft silicone dressing with silver (MAg) for treatment of moist desquamation.

PROBLEM:
Cutaneous manifestations can occur in up to 90% of individuals receiving radiation therapy. While reactions are typically observed in the first four weeks of treatment, in some instances they may not become acute until after treatment is completed. Radiation sequelae can result in pain, pruritus, and skin breakdown. Acute skin reactions may lead to reduced quality of life, inability to complete activities of daily living (ADL’s), and may result in secondary infection. In some instances, treatment breaks are required, or patients may elect to discontinue treatment. Particularly challenging is the treatment of moist/chronic moist desquamation.

EVIDENCE-BASED NURSING MANAGEMENT INCLUDES:
• Avoidance of skin contact, or skin rubbing against items that could irritate or cause friction and shear to the irradiated area
• Application of topical preparations, both over the counter and prescription
• Principles of moist wound healing
• The use of advanced wound care products
• Use of topical or systemic antimicrobials for clinical infection, including silver

CASE STUDIES:

Case #1
56 yr white male with left tonsil and tongue squamous cell carcinoma. Pt received concomitant radiotherapy (33 treatments) with weekly Erbitux (BEIRF) infusions (8 weeks). Patient completed full ESRF/radiotherapy treatment on 12/20/09. Patient presented post treatment on 12/24/09 with fever, positive blood cultures, x 1 and circumferential moist radiation desquamation with deep partial thickness blistering to posterior neck. MAg applied on 12/24/09 and left in place 4 days. Pt showed autolytic debridement of necrotic tissue and re-epithelialization in 4 days, healed on 12/30.

Case #2
16 yr Hispanic male with rhabdomyosarcoma, fever and neutropenia. Patient received final dose of vincristine chemotherapy on 4/22/10. Pt previously received radiation therapy. NOTE: Medical record reflects tumor necrosis to the groin, not observed. Patient was hospitalized on 4/22/10 with fever and significant painful left axilla radiation dermatitis requiring IV dillaudid and antibiotics. Pt was seen by WOCN 4/26/10 and MAg applied and held in place with surgical netting. Follow up dressing change on 4/28/10. By 6/27 Pt had improved enough for discharge to home on PO antibiotics with left axilla 95% healed, dressing in place, and discharge instructions to change dressing PRN.

Case #3
54 yr white male with left tonsil and tongue squamous cell carcinoma and concomitant radiotherapy (33 treatments) with weekly Erbitux (BEIRF) infusions. Prior to completion of radiotherapy, patient developed moist desquamation to bilateral neck with co irritated skin, constant discomfort and difficulty sleeping secondary to pain. MAg applied to bilateral neck on 7/27/10. Pt continued with MAg, MAg was removed on 8/7/10. Patient was discharged on 8/10/10 and reported “it was the one thing that helped me through the last week of radiation therapy in terms of comfort for my skin condition”. Pt was able to complete radiotherapy without a break.

RESULTS:
There are few evidence-based management guidelines for treating radiation desquamation. This poster demonstrates the use of an absorbent soft silicone dressing with silver (MAg) for the treatment of moist radiation desquamation through three clinical case studies. All patients showed complete healing in 4-7 days. MAg effectively separates skin folds and minimizes friction and shear allowing for re-epithelialization. The ionic silver provides an antimicrobial effect while the absorbent soft silicone foam manages exudate and maintains a moist wound healing environment that is conducive to autolytic debridement. Patients verbalized improved comfort, full range of motion, reduction in pruritus, better quality of sleep, ability to complete ADL’s and a marked decrease in pain.

RECOMMENDATIONS FOR FURTHER STUDY:
In a 2004 study, Vuong et al.1 found a statistically significant (p = 0.0001) reduction in grade 3 and 4 moist desquamation reactions in gemcitabine/ cisplatin-treated patients with the use of a silver dressing. Because the immune system is often challenged in patients undergoing radiation therapy treatments and healing from resultant desquamation may take 3-5 weeks following treatment to resolve, the use of MAg as an effective dressing for treatment bears further study.

References:

W O N D E R , A S K , R E A D !
WHERE TO START... EVIDENCE-BASED PRACTICE!
• Ideas are exchanged at conferences, but it is when we return home that ideas become reality.
• Please join us in learning and sharing to promote evidence-based care.
• We must thank our patients for allowing us to share the journey as we strive to improve our care.

TREATMENT/PRODUCT APPLICATION TIPS:
1. Gently wash treatment area prior to application of MAg using mild soap and water. Ensure that skin is completely dry.
2. Choose the correct size (or cut to customize) so that the dressing extends beyond the area of desquamation by at least 2–3 cm and allows the dressing to anchor to the stable intact skin. Leave release film in place while cutting.
3. Fixate, avoiding adhesives to treatment field. Consider use of tubular retention dressing, soft silicone tape or wrap gauze. One patient held dressing in place with a bandana to achieve fixation.
4. MAg may remain in place for up to 7 days. Change PRN. Dressing should be removed for radiotherapy.

Declarations of Interest:
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