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Prophylactic NS-21 Maintains the Skin Moisture in Head and Neck Cancer Patients Undergoing Chemoradiation Therapy

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Purpose:

To evaluate the practicality of NS-21 cream with regard to its skin-related toxicity in patients with head and neck cancer (HNC) who are undergoing concurrent chemoradiation therapy (CCRT) or radiotherapy (RT).

Methods:

Between July 2015 and November 2017, 30 HNC patients who underwent RT or CCRT were randomly allocated to receive either NS-21 or control treatment on their irradiated skin three times per day, starting at the initiation of RT or CCRT and ending 2 weeks after the completion of RT or until the appearance of grade 3 acute radiation dermatitis (ARD). Dermatitis was recorded weekly according to the Common Terminology Criteria for Adverse Events (CTCAE) version 4.0. Skin humidity was monitored by a digital moisture meter. The generalized estimating equation (GEE) and logit link function method were used for statistical analysis.

Results:

No serious adverse events were observed in either group. Itching dermatitis occurred on the right lower neck in one patient of the NS-21 group during the 3rd week of CCRT, but the severity was mild. The median skin moisture value at the time of the final treatment was significantly different between the study and control groups (30.6 vs. 27.3, $p = 0.013$). Additionally, there was an inverse relationship between skin moisture and ARD grade ($B = -0.04$, $p = 0.005$). The incidence of ARD at the time of the last treatment was not significantly different between the study and control groups (6.7% vs 26.7%, $p = 0.165$). The risk of grade 3 ARD for skin that had received an irradiation dose of 47–70 Gy was higher than that of skin that had received an irradiation dose ≤ 46 Gy (OR = 31.06, 95% CI = 5.95–162.21, $p < 0.001$). Nevertheless, the risk of ARD was not significantly different between the groups (OR = 0.38, 95% CI = 0.08–1.74, $p = 0.212$).

Conclusion:

NS-21 was well tolerated and effective for the maintenance of skin moisture; however, there was no statistically significant reduction in the risk of ARD in HNC patients undergoing RT or CCRT when compared with HNC patients in the control group.

Title:

Prophylactic NS-21 Maintains the Skin Moisture in Head and Neck Cancer Patients Undergoing Chemoradiation Therapy

Keywords:

Head and neck cancer, NS-21 and Skin moisture

Abstract Summary:

The NS-21 was well tolerated and effective for the maintenance of skin moisture; however, there was no statistically significant reduction in the risk of acute radiation dermatitis (ARD) in head and neck cancer (HNC) patients undergoing radiotherapy (RT) or concurrent chemoradiation therapy (CCRT) when compared with HNC patients in the control group.

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Author Summary: Professor Chou specializes in oncology nursing field for 15 years. Majority of study focus on symptom distress of many types cancer patients undergoing chemotherapy. The author is also interested in nursing education field.