There are multiple known risk factors for cutaneous squamous cell carcinoma (SCC), but hypothyroidism has never been considered one of them. The objective of this study is to determine whether patients with cutaneous SCC have a higher prevalence of hypothyroidism than the general U.S. population and to query a causal effect of hypothyroidism on future development of SCC. A retrospective review was done for patients seen at the University of Southern California with cutaneous SCC from 2006 to 2016. Charts were reviewed for the presence of hypothyroidism and thyroid replacement therapy prior to the diagnosis of SCC for each patient. Multiple prevalence studies reporting the prevalence of overt and subclinical hypothyroidism in the general U.S. population and/or elderly U.S. population were gathered from the literature for reference. The most recent prevalence estimate of overt hypothyroidism amongst the general U.S. population was 0.1%. At our center, of the 261 patients diagnosed with SCC of the skin, 61 (23%) were found to have a preceding diagnosis of hypothyroidism, demonstrating a significant elevation of the population-wide rate (p < .01). There were no significant differences in ages under, or over 65 years of age, between SCC patients with and without hypothyroidism and SCC patients without hypothyroidism. Nodal metastasis rate was also noted to be higher in SCC patients with hypothyroidism than SCC patients without hypothyroidism although this relationship was not statistically significant (20% vs 13%, p = .18). Thus, our review suggests that patients with SCC of the skin are significantly more likely to have a history of hypothyroidism than the general population. Given the chronological distribution of the two diseases, we conclude that hypothyroidism may act as an independent risk factor for the development of cutaneous SCC. Identifying risk factors for SCC of the skin will guide preventative efforts in the future.

**LB942 Photodynamic therapy (PDT) with aminolevulinic acid (ALA) 20% and blue light reduces occurrence of actinic keratoses (AK) and de novo non-melanoma skin cancers (NMSCs) in patients with field cancerization**

S Marcus1, D Piacquadio2, A Houlihan3, M Ferdon2 and J Berg2 1Sun Pharmaceutical Industries, Mount Kisco, NY; 2Therapeutics Inc., San Diego, CA and 3Sun Pharmaceutical Industries, Congers, NY

Patients with field cancerization (at least one prior NMSC and a biopsy of clinically normal appearing skin) may benefit from field treatment with PDT by reducing the occurrence of new lesions over time. This clinical chemoprevention study evaluated the occurrence of AKs over 52 weeks after cryotherapy followed by 2 or 3 treatments with ALA-PDT. Study Design: This is a prospective multi-center evaluator-blinded, placebo-controlled study which enrolled patients with facial AKs, a history of NMSCs, and no history of SCC. Eligible patients were randomized to ALA treatments: ALA-2X: two ALA-PDT treatments (Baseline, Week 4); ALA-3X: three ALA-PDT treatments (Baseline, Week 4, Week 16); ALA-4X: four ALA-PDT treatments (Baseline, Week 4, Week 16, Week 28); or placebo (VEH). Key Outcomes: The primary efficacy outcome was the occurrence of AKs over 52 weeks after cryotherapy followed by 2 or 3 treatments with ALA-PDT. Conclusions: ALA-PDT with Blue light treatment significantly reduced the occurrence of AKs over 52 weeks after cryotherapy followed by 2 or 3 treatments with ALA-PDT. Patients with field cancerization had a higher occurrence of new lesions over time. This clinical chemoprevention study evaluated the occurrence of AKs over 52 weeks after cryotherapy followed by 2 or 3 treatments with ALA-PDT.