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Counting keratinocyte carcinomas as a step to preventing them

To the Editor: Keratinocyte carcinomas (KCs) (ie, basal cell carcinoma and squamous cell carcinoma) account for three-fourths of cancers in the United States.[1] Twenty-five years ago, KC was known as nonmelanoma skin cancer. During their training, many of the physicians practicing at the time had learned to call basal cell carcinoma "epithelioma," suggesting that it was a benign entity. KC frequency was poorly documented, it was not included in most cancer registries, and its morbidity was largely unmeasured. Consequently, the impact of KCs was underestimated.

Naming and enumerating these cancers facilitates their appreciation and ultimately reduces their numbers and public health impact. For KCs to truly have an impact on public policy, they need to be counted. Quantification is a stimulus to action. The goal of our report in the *Journal of the American Academy of Dermatology* was to sharpen the focus on skin cancers.[2]

Progress has occurred over the past quarter-century. KCs were formerly known (and are still often known) as nonmelanoma skin cancers, which is an ambiguous and otherwise (for multiple reasons) suboptimal term.[1] At that time, an estimated 480,000 Americans developed KC annually, an estimate that was then 16 years old and doubled with the publication of our report.[2]

Since then, estimation of KC incidence has improved, and the incidence has been increasing—a trend that has been amplified by increasing iatrogenic immunosuppression.[3] The improvements in the estimation of KC are due to better access to and utilization of big databases.

It is now time to cut KC incidence and burden. Many efforts have been focused on prevention with sun protection, dating back to Slip! Slop! Slap! (slip on a shirt, slop on the sunscreen, slap on a hat), which was publicized initially by the Anti-Cancer Council of Victoria, Australia, nearly 40 years ago.[4] Since then, we have learned much about the difficulty of changing the sun protection habits of the population, the long delay between changes in those habits, and the limited progress in moderation of the skin cancer incidence rate despite extensive population-wide efforts. Additional measures are needed.

Particularly promising are efforts to reduce KC risk despite existing skin damage from prior ultraviolet radiation exposure. The sole topical agent demonstrated to be efficacious in preventing KC for a prolonged period after its use is 5-fluorouracil. It lowers risk of squamous cell carcinoma by three-fourths during the year after application of a standard 2- to 4-week course to the face and ears; it is cost-effective, and indeed, cost-saving.[5] The usefulness of other topical agents for chemoprevention of KC is unproved. Skin cancer risk may not be substantially reduced by actinic keratosis destruction alone. We need randomized trials to guide practice.

Oral nicotinamide has modest efficacy for reducing KC risk, but its limitations include lack of effect after ingestion ends and the potential for increased risk of more aggressive KCs. Oral retinoids decrease KC risk during use but not afterward, and they have potential concerning adverse effects. Neither of these treatments are officially indicated for skin cancer chemoprevention.

The way forward is to produce convincing evidence of a practical, safe strategy with the ultimate goal of reducing incidence (and associated morbidity and costs) in the general population.

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