Tracking Actinic Keratoses: Here, There, Nowhere

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AMSTERDAM — The natural history of actinic keratoses involves high turnover and far greater lability than generally recognized, according to a first-of-its-kind study.

"When you count three or four AKs on a person at time zero and come back and find three or four at time one, you may think you're looking at the same AKs, but this study shows you're not. You're probably looking at six or seven different AKs—three have regressed and three others have taken their place," Dr. Adele C. Green said at the 11th World Congress on Cancers of the Skin.

Indeed, she compared AKs to whitecaps arising in a sea of dysplastic skin, then ebbing below the point of clinical detection before reforming.

"It's striking how high the turnover is. This is such a dynamic population. The more frequently you look at patients and count their AKs, the more turnover you see," added Dr. Green, head of the cancer and population studies group at the Queensland Institute of Medical Research, Brisbane, Australia.

The other impressive finding from this AK substudy—conducted within the larger prospective, longitudinal, community-based Nambour Skin Cancer Study—was that a small percentage of individuals carry a disproportionate load of the total AK burden. While the risk that any individual AK will transform into invasive nonmelanoma skin cancer is extremely low, the high total AK count in this heavily burdened subgroup identifies affected individuals as being at high risk.

The AK substudy involved 96 randomly selected adults, equally divided between men and women, who underwent detailed skin examinations every 2-6 months during which every AK was stenciled onto a clear plastic-wrap body map for purposes of lesion comparison over time.

At baseline, 53 of the 96 participants had no prevalent AKs, and the other 43 had a total of 494 lesions. Twelve percent of subjects had 65% of all prevalent AKs.

During the first 12 months of follow-up, 549 new AKs occurred in men and just 65 in women. Meanwhile, 526 prevalent AKs regressed and 53 prevalent AKs regressed and then recurred. The result was a 1-year net 45% increase in the number of AKs in men and a 44% net decrease in women. Seventy-four percent of prevalent AKs regressed, as did 29% of incident AKs.

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DR. GREEN

Participants with baseline AKs were more than sevenfold more likely to develop additional AKs in the next year, Dr. Green noted at the congress, which was cosponsored by the Skin Cancer Foundation and Erasmus University.

The clinical relevance of these findings about the natural history of AKs hinges on the fact that the full 1,621-subject Nambour study showed that regular use of a broad-spectrum sunscreen markedly reduced the incidence of both AKs and invasive squamous cell carcinomas. Because AKs arise and regress so frequently in a field of sun-damaged skin and there is no way to identify which ones will transform into skin cancer, it's illogical to treat individual lesions with cryotherapy, as many dermatologists persist in doing, she continued.

This argument struck a responsive chord with other speakers. "For field cancerization, we need field therapy," said Dr. Tobias Forschner of the skin cancer center at Charité University Hospital, Berlin. "We have lots of treatment options," Dr. Forschner added, citing the intense commercial interest in field therapy using photodynamic therapy, imiquimod, diclofenac, and 5-fluorouracil.

But Dr. Green said the strongest clinical trial evidence at this point is for sunscreens.

"Given the high lability of these lesions in the general population and given that we can achieve prevention of these lesions at the population level by frequent application of sunscreen … I believe this is the way to approach the prevention of future AKs," she said. Anecdotally, Australian dermatologists see the proof of this on a daily basis, she added. ■