

Table II. Risk factors for subclinical infiltration of BCC in univariate and multiple logistic regression analyses

Factors	P value (95% CI)
Univariate analysis	
Age	.812
Sex	.994
Size	.011
High-risk location	.369
Size and high-risk location	.219
Pigmentation	<.001
Ulceration	.734
Aggressive histologic subtype	<.001
Multiple logistic regression analysis	
Age	.061 (−0.43 to 0.005)
Sex	.771 (−0.467 to 0.857)
Size	.025 (0.053 to 0.808)
Pigmentation	.035 (−0.045 to −0.01)
Aggressive histologic subtype	<.001 (1.160 to 2.469)

Values considered statistically significant ($P < .05$) are bold. BCC, Basal cell carcinoma; CI, confidence interval; MMS, Mohs micrographic surgery.

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Long-term sheltering mustaches reduce incidence of lower lip actinic keratosis



To the Editor: Actinic keratoses (AKs) are precursors to cutaneous squamous cell carcinomas (cSCCs). Although all AKs can progress to cSCCs, (1) lip AKs progress more often and (2) lip cSCCs are more likely to metastasize.¹⁻³ The rate of progression from nonlip AK to cSCC is generally reported to be less than 0.5%,⁴ and the metastatic rate for nonlip cSCC is 2% to 3%.¹ In contrast, the rate of progression of lip AK

to cSCC has been reported to be 14% to 17%,^{2,3} and lip cSCC has a metastatic rate of approximately 11%.¹

Flohil et al demonstrated that whereas the scalp's upward-facing surface receives increased exposure to ultraviolet light and carries an elevated risk of AK, scalp hair can protect against scalp AK.⁵ Similarly, lip AKs nearly always occur on the upward-facing and more ultraviolet-exposed lower lip, not on the downward-facing and relatively protected upper lip. The lip may be especially susceptible to AK on account of its thin keratin layer, reduced melanin content, and lower sebaceous and sweat secretions.

To study the impact of mustaches on lip AK, we assessed 200 male subjects with AK on the head and face: 59 who reported having had sheltering mustaches continuously since their early 20s (test group) and 141 who did not (control group). Sheltering was generally defined as a mustache greater than 9 mm in length, but anatomic exceptions were made (eg, an underbite required a longer mustache). A total of 141 other male patients with head and/or face AKs were included as controls. Data were analyzed by using RStudio software (RStudio, Inc, Boston, MA), followed by multivariate logistic regression analysis.

Known risk factors for development of an AK include occupational and/or recreational sun exposure, blistering sunburns, history of skin cancer, immunosuppression, tobacco use, age older than 65 years, and family history of skin cancer.⁵ Recursive partitioning classification tree analysis revealed that 4 of these risk factors were significant in our data set. Multivariate logistic regression analysis of those 4 risk factors showed that whereas age had a minimal impact ($P = .008$) and family history of skin cancer and sunburns roughly doubled the risk of a lip AK ($P = .019$ and $.029$, respectively), mustaches reduced the risk of a lower lip AK by a factor of 16 ($P = .0003$). Thus, among patients who already had a head AK, mustaches had the greatest and most significant impact on reducing risk of a lower lip AK (Table I and Fig 1 [available at <http://www.jaad.org>]).

Because all subjects already had an AK on the head, it is not entirely surprising that immunosuppression did not independently increase the incidence of lip AKs. However, because immunosuppression is of such importance in dermatology, a separate subanalysis examined the 41 immunocompromised subjects. Of the 22 without sheltering mustaches, 7 had lower lip AKs, whereas none of the 19 with mustaches had a lower lip AK ($P = .02$). This supports a protective effect of mustaches in immunocompromised individuals.

The limitations of our study include the fact that all subjects came from a tertiary dermatology clinic population that was greatly enriched for risk factors

Table I. Odds ratios and *P* values for key risk factors for AK of the lower lip

Risk factor	Odds ratio	95% CI	<i>P</i> value
Mustache (yes)	0.06	(0.01, 0.23)	3.0E-04
Age	1.06	(1.01,1.11)	.008
Family history of skin cancer (yes)	2.49	(1.17,5.49)	.019
History of blistering sunburn (yes)	2.3	(1.10,4.96)	.029

AK, Actinic keratosis; CI, confidence interval.

for lip AKs, the fact that lip and other AKs were generally diagnosed on the basis of clinical appearance (presence of focal scale, erythema, leukoplakia, and/or dramatic difference in appearance between a healthy upper lip and a scaly, erythematous, crusted lower lip), and the fact that few of the AKs were subjected to biopsy for histologic confirmation.

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One in a hundred million: Merkel cell carcinoma in pediatric and young adult patients is rare but more likely to present at advanced stages based on US registry data



To the Editor: Published data for pediatric and young adult patients with Merkel cell carcinoma (MCC) are scarce. Case reports from the United States and Europe¹⁻³ suggest that MCC can occur in young persons and may be more aggressive in this setting. We sought to determine the frequency of MCC in pediatric and young adult populations and establish whether MCC is more likely to present at advanced stages in younger people. To minimize referral bias and maximize available data, we used the National Program of Cancer Registries Surveillance Epidemiology and End Results (NPCR SEER)⁴ database, which captures incident cancer cases in more than 98% of the US population.

From 2001 to 2015, there were 27,105 incident cases of MCC (*International Classification of Diseases for Oncology, Third Edition*, code 8247/3) that had been reported to the NPCR SEER database with a defined age at diagnosis, of which only 20 cases (0.07%) were in persons younger than 30 years. Of these young individuals, 75% were 20 to 29 years old. Over this 15-year period, the crude (unadjusted) MCC incidence rates were more than 7000 times higher in individuals at least 85 years of age than in those younger than 30 years (1 in 13,186 person-years versus 1 in 93,023,545 person-years, respectively [Fig 1]). The demographic characteristics of persons with MCC who were younger than 30 years were otherwise similar to those of persons with MCC who were older than 30 years, with a modest male predominance (60%) and predominance of non-Hispanic whites (85%).

Having established the low incidence rate of MCC in individuals younger than 30 years, we next sought to determine whether patients in this subset have more advanced disease. Information on extent of disease at presentation was available for 90% of patients younger than 30 years and 87% of those 30 years or older. All patients with MCC who were younger than 30 years had a defined skin primary, most commonly on the head and neck (44%); in this respect, they were similar to those 30 years or older, of whom 99% had a defined skin primary, of which 43% were on the head and neck. However, extent of disease at presentation differed, with younger individuals being 3 times more likely to present with distant metastatic disease (33% vs 10%) ($P = .01$ [chi-square with Yates correction]) (Fig 2). The high fraction of young patients presenting with metastatic

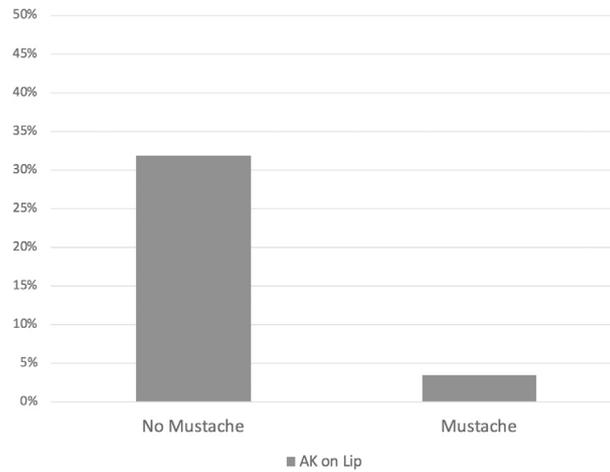


Fig 1. Prevalence of actinic keratosis (AK) on the lower lip in the group with mustaches and in the control group (3% in the mustache group and 32% in the control group [$P = .0003$]).