Incidence and Clinical Characteristics of Non-melanoma Skin Cancer Among Hispanic, Asian, and Caucasian Patients in the U.S.: a 5-year, Single Institution Retrospective Review

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Background

• Non-melanoma skin cancer (NMSC) is the most common type of malignancy in the United States.
• Over 3.5 million NMSCs diagnosed each year; incidence rising at about 2.6% per year.
• NMSCs are more prevalent among Caucasians and have been well-studied in this group.
• Most risk factors, characteristics, and recommendations for skin cancer prevention are based on studies of Caucasian patients.
• Limited data on skin cancer in other ethnicities.
• Hispanics and Asians are the two fastest-growing minorities in the U.S. and are projected to comprise a large portion of the population in the future.
• Important to evaluate risk factors and clinical features of NMSCs in these ethnic groups.

Objective

• Compare the incidence of non-melanoma skin cancers (NMSCs) among Hispanic, Asian, and Caucasian patients presenting at UCSD Mohs and Micrographic Surgery unit between 2007 and 2012.
• Compare risk factors and clinical characteristics of lesions among these three groups.

Methods

• 5-year retrospective chart review of all MMS cases presenting between March 2007 and February 2012 at UCSD Dermatologic and MMS Center.
• Reviewed electronic medical records of patients’ racial self-identification.

Statistical Methods

• Only patients who self-identified as Caucasian, Hispanic, or Asian were included.
• Records reviewed for patient age, sex, lesion location, cancer subtype, pre- and post-operation size, and number of Mohs stages required for excision.
• Data analyzed via Independent T-test for continuous variables and Chi Square/Fisher’s exact test for binary variables, and logistic regression for multivariable analysis in SPSS Version 22.

Results

NMSC Incidence

Hispanics: BCC: 70 (61.4%)  
SCC: 44 (38.6%)
Asians: BCC: 22 (66.7%)  
SCC: 11 (33.3%)

4029 cases of NMSCs
• 96.3% (n=3881) Caucasian
• 2.9% (n=115) Hispanic
• 0.8% (n=3) Asian

Hispanic patients significantly younger than Caucasians and Asians (p=0.003, 0.023, respectively).
Average ages – Caucasian: 66.6 y.o.; Hispanic: 62.1 y.o.; Asian: 70.3 y.o.

Tumor Location

Caucasian
Hispanic
Asian
Zone 1: “mask areas” of face (central face, eyelids, eyebrows, periorbital, nose, lips (cutanous and vermilion), chin, mandible, preauricular and postauricular skin/sulci, temple, ear), genitilia, hands, and feet
Zone 2: cheeks, forehead, scalp, neck, and prtabial
Zone 3: trunk and extremities excluding pretilial, hands, feet, nail units, and ankles

summary

• Hispanic patients are significantly younger than Caucasians and Asians (p=0.003, 0.023, respectively).
• Majority of NMSCs in Caucasians occurred in men (64% male, 36% female); reversed gender ratio in Hispanics (33.9% male, 66.1% female) and Asians (32% male, 60.6% female).
• Significantly more NMSCs occur in the “central face” area in Hispanics.
• Race is not a significant predictor for developing a specific NMSC type (BCC or SCC).

Conclusions

• The rise of NMSCs in Hispanics and Asians, especially among women, is concerning given that they are the fastest growing ethnic populations in the U.S.
• Proper photoprotection counseling should be stressed to minorities to prevent further increase of NMSC.
• Future large multi-center studies focusing on NMSC features (not only those indicated for MMS) and risk factors among minorities are necessary to further elucidate our findings.

Limitations

• Single-institution study.
• Small sample size.
• Geographical location.
• Only patients with indications for MMS included.
• Lack of information on Fitzpatrick skin type.

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