

Racial and Ethnic Disparities in Non-Melanoma Skin Cancer Incidence and Time to First NMSC Among Adults with Atopic Dermatitis Treated with Topical Therapy

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Background

Atopic dermatitis (AD) is a chronic inflammatory disease with impaired skin-barrier function, but its association with non-melanoma skin cancer (NMSC) remains uncertain.

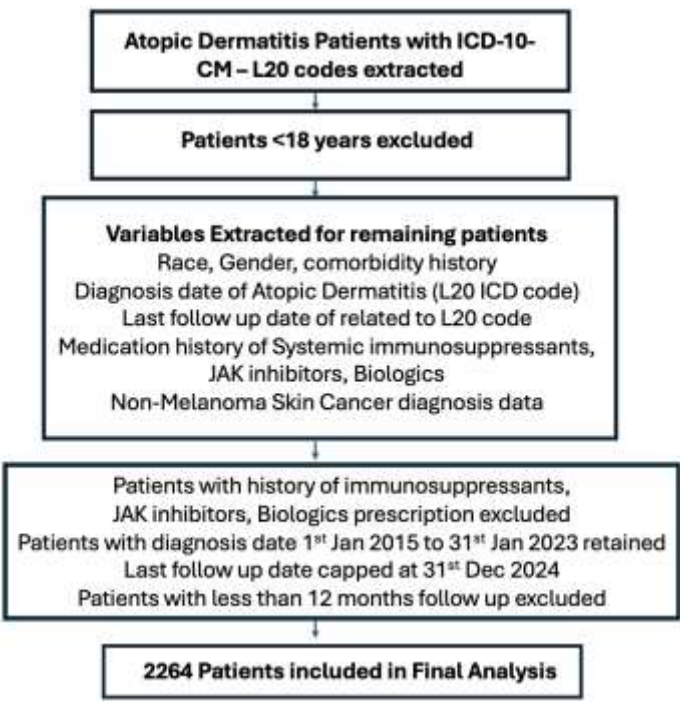
Phototherapy and systemic immunosuppressive therapies are more common in severe AD and may independently influence NMSC risk, creating potential confounding by indication.

NMSC incidence varies across racial and ethnic groups, while differences in dermatologic surveillance, access to specialty care, diagnosis, and coding may affect observed rates in EHR data.

Study Objective

- To compare the incidence of non-melanoma skin cancer across racial and ethnic groups in adults with atopic dermatitis managed without systemic agents
- To evaluate time to first NMSC by race and ethnicity in a topical-only atopic dermatitis cohort
- To explore racial and ethnic differences in Mohs-defined NMSC or Mohs surgery use as a secondary indicator of management patterns

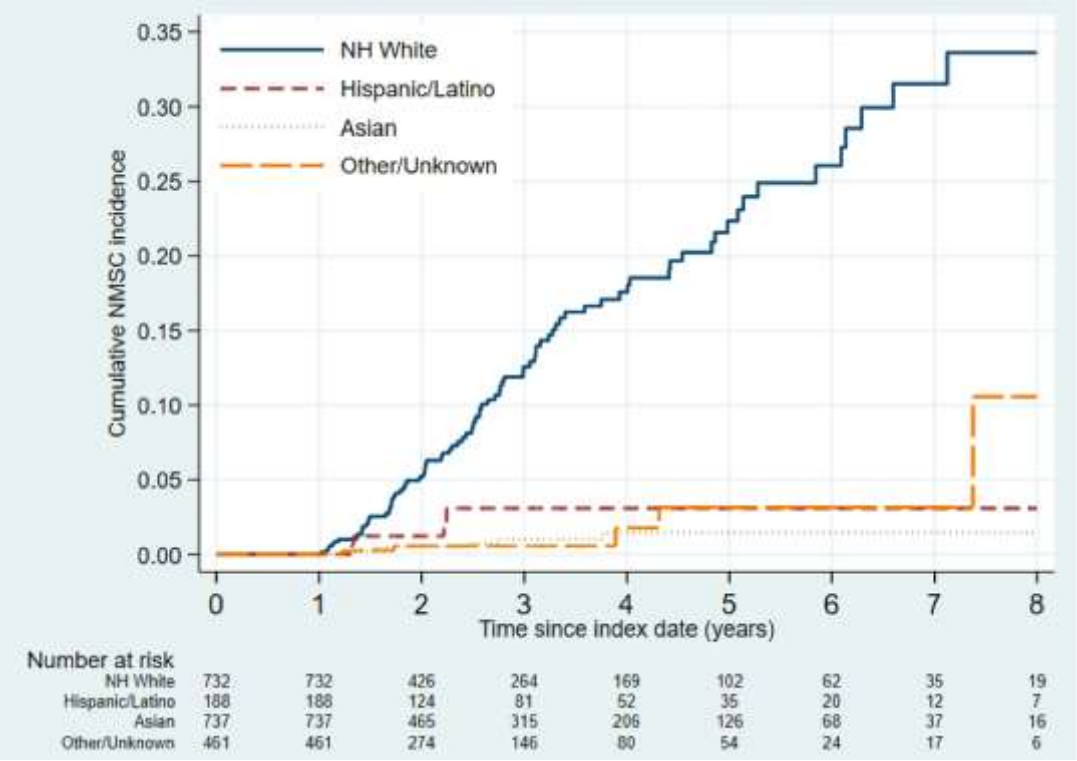
Methods:



Among adults with atopic dermatitis treated with topical therapy alone, non-melanoma skin cancer(NMSC) risk was highest in non-Hispanic White patients with 40% White patients undergoing Mohs Surgery, and older age was the strongest independent predictor of NMSC diagnosis.



Results



In 2,264 adults with topical-only atopic dermatitis, 106 patients (4.68%) developed incident NMSC over about 3 years of follow-up. Non-Hispanic White patients had the highest crude NMSC incidence at 41.77 per 1,000 person-years. Incidence was much lower in Hispanic/Latino, Asian, Other/Unknown, and Black patients at 6.66, 3.01, 3.96, and 2.00 per 1,000 person-years.

After adjustment, Asian and Other/Unknown patients had significantly lower NMSC hazard than non-Hispanic White patients, with HRs of 0.07 and 0.17.

Older age was a strong independent predictor, with NMSC hazard increasing 6% per year of age.

Among patients who developed NMSC, 37.7% underwent Mohs surgery overall.

Mohs use was lower in all non-White groups, and none was recorded in Black or Hispanic/Latino patients with NMSC.

Conclusions

Among adults with atopic dermatitis managed with topical therapy alone, NMSC risk is heterogeneous across racial and ethnic groups, highest in non-Hispanic White, Hispanic, and Other/Unknown patients and lowest in non-Hispanic Black and Asian patients. Age remains a key determinant of NMSC, and marked differences in use of Mohs surgery suggest potential inequities in recognition or treatment of clinically significant tumors. These findings provide a real-world benchmark for background NMSC risk in AD and support efforts to improve equitable skin cancer surveillance and management across diverse patient populations.

References

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