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Prevalence of lichen planus across racial/ethnic groups in the All of Us research program: a US-based cohort study

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Introduction: Lichen planus (LP) is an inflammatory dermatosis whose epidemiology has not been well described. We sought to describe the prevalence of LP among racial and ethnic groups in the United States-based All of Us Research Program. Methods: We performed a cross-sectional analysis of the All of Us Research Program, a US-based cohort study that aims to enroll and share health and genetic data on over 1 million participants with a focus on groups historically underrepresented in biomedical research. We identified LP using participant self-reported and electronic health record data. We calculated the prevalence of LP among participants with available data and reported results and demographics across self-identified racial/ethnic groups. We calculated 95% confidence intervals using the Wald method. Results: Of 203,025 participants with available data, we identified 7,828 LP cases. The overall prevalence of LP was 0.39% (0.36-0.42) with a 3:1 female predominance (586 females [74.4%] and an average age of 66 (standard deviation 13). 82% of LP cases were in those aged 55 and older, with the highest prevalence seen among the 65-74-year-old group (34% of the LP population). The prevalence of LP varied by racial/ethnic group: prevalence was highest in whites (n=470, 0.45% [0.41-0.49]), followed by Blacks (n=175, 0.42% [0.36-0.49]), Asians (n=15, 0.26% [0.13-0.42]), and Hispanics (n=9, 0.23% [0.18-0.28]). The age distribution also varied by race/ethnicity: average age was higher among whites (69 years, SD 11) compared to racial/ethnic minorities (Black, SD 64; Asian, SD 59; Hispanic, 61 SD 13). Conclusions: In the US-based All of US cohort, the prevalence of LP was 0.36% to 0.42% and varied by racial and ethnic group. These results need validation in other population-based cohorts.

Association between obesity and sunburn: A cross-sectional analysis in claims data

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A growing body of literature supports a seemingly paradoxical association between obesity and an increased risk for melanoma and a decreased risk for keratoacanthoma (KCs). Investigations using survey data show an association between obesity and sunburn, but this is subject to recall bias. We aimed to assess the association between obesity and sunburn diagnosed in medical encounters. We conducted a cross-sectional analysis using claims data from the Truven Health MarketScan (2009-2017) and Health Risk Assessment (HRA) Database, with clinical insurance claims (n=43,334,575) and HRA claims (n=93,031,719) among patients aged 19-75 years old with at least one medical encounter were included. The primary outcome was sunburn diagnosis. We performed multivariate logistic regression, adjusting for age, gender, region, insurance type, and healthcare utilization. Approximately 3.4 million patients met inclusion criteria, with 6,962 having at least one sunburn diagnosis. Multivariate logistic regression showed obesity was statistically significantly associated with sunburn (odds ratio [OR] 1.16, 95% confidence interval [CI] 1.15-1.18). Female gender (OR 1.25), younger age (OR 0.98 per 1-year increase in age), and healthcare utilization (OR 1.02 per 1 additional outpatient encounter per year) were also statistically significantly associated with sunburn. Our study shows a positive association between obesity and sunburn diagnosis in a large claims database, aligning with self-reported data and supporting the theory that sunburn may partially contribute to the increased risk for melanoma in patients with obesity. This does not address the lower risk for KCs. Understanding patterns of UV exposure in patients with obesity can inform interventions to minimize melanoma risk.

COVID-19 complications in patients with Hidradenitis Suppurativa: A multi-center study

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Hidradenitis Suppurativa (HS) is a chronic inflammatory skin disorder that causes abscesses in intertriginous areas and is also associated with numerous other conditions. There is limited literature on COVID-19 outcomes of COVID patients with HS so the goal was to investigate the impact of AD on COVID outcomes. A retrospective cohort study was done using TriNetX, a federated real time database of 63 million records. COVID patient cohorts were identified by validated ICD-10 and serology codes per CDC guidelines from 1/2020 to 2/22/2021. A 1:1 matched pair was constructed, adjusting for comorbidities and demographics, to calculate adjusted Risk Ratios (aRR) with 95% CI. 30-day COVID complications were examined with severe COVID being defined as a composite of mortality and ventilation. Inflammatory bowel disease (IBD) patients were also performed as a cohort. In a matched sample of 2004 patients in each cohort, there was no statistically significant difference between HS-COVID patients and non-HS COVID patients in hospitalization (0.93 [0.88-1.1], acute respiratory distress syndrome (1.31 [0.82-2.2]), mechanical ventilation (1.06 [0.71-1.6]), mortality (1.00 [0.61-1.8]), and severe COVID (1.07 [0.81-1.4]) but there was a difference in seizures (1.37 [1.01-1.9]). Subgroup analysis revealed that HS-COVID patients with a one-year history of systemic antibiotic use were at a higher risk for hospitalization (1.27 [1.04-1.57]) and sunburn were associated with severe COVID outcomes (adj OR 1.75 [1.27-2.43]). This data highlights the importance of educating HS patients with a history of systemic antibiotics about their higher risk for hospitalization compared to HS patients without a history of systemic antibiotics. Further studies are warranted to validate the longer-term impacts of COVID on HS patients.

Clinical and demographic characteristics of encounters with sunburn in claims data

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Sunburn is a preventable risk factor for skin cancer. Prior investigations of sunburn in healthcare settings have focused on emergency department visits. More epidemiologic information on patients presenting with sunburn is important to inform public health initiatives and further research. Here we characterize the clinical settings and demographic characteristics of patients who receive a sunburn diagnosis. We used Truven MarketScan, a national database of commercial insurance data, to identify patients with a sunburn diagnosis code entered (ICD-9 or ICD-10) during an encounter. The primary outcomes were patient demographics, clinical settings, provider specialties, management provided, and geographic location, presented with descriptive statistics. We identified 186,165 patients with 230,967 sunburn encounters. 55.3% were women and 63.9% were <18 years of age. Most of the encounters occurred during summer (57.6%), followed by spring (29.9%). The most common region was the South (38.4%), followed by the Northeast (23.2%). 26.4% of the encounters were in the emergency or urgent care setting, and 73.4% were outpatient. Fewer than 1% of patients were hospitalized. The most common treatments included systemic and topical steroids (7.2% and 5.2%, respectively) and NSAIDs (2.7%). The most common provider specialty was Dermatology (23.5%), followed by Family Medicine (19.9%). This study highlights insights into the clinical settings and demographics of patients diagnosed with sunburn across healthcare settings and highlights the importance of sunburn prevention in the pediatric population, which comprised more than a quarter of patients diagnosed with sunburn.