398 Incidence and predictors of acne among transgender patients treated with masculinizing hormone therapy

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Transgender patients treated with masculinizing hormone therapy (MHT) for gender affirmation may be at higher risk of developing acne following hormone initiation. We sought to examine the incidence and severity of acne in patients treated with MHT and factors which may predict development of acne. We conducted a retrospective cohort study using electronic medical record data from a community health center which provides care to the LGBTQA+ population for patients who started MHT between 2014 and 2017 (n = 1,054). Acne severity was categorized as severe if it involved cutaneous rise, moderate if treated with oral antibiotics, and mild if treated with topical and/or no prescription medications. Clinical and demographic factors including BMI, age, smoking status, testosterone levels, race, sexual orientation, employment, and comorbid disorders were tested for an effect on acne diagnosis and severity. Chi-square analysis, Fischer's exact test, multivariate logistic regression, and a propensity score analysis were used to compare means. Multivariate logistic regression was performed for all factors p < 0.05 to identify independent predictors of acne. 1,054 patients were included in the analysis. Overall prevalence of acne was 145/1054 (32.7%), including 280 patients (26.6%) who developed acne after MHT initiation, with an incidence of 12.4% within the first 6 months and MHT. 20.9% within the first year and 21.7% within the first two years. Patients who developed post-MHT acne were younger (mean age 23 years, p < 0.0003) and had lower BMIs (mean 24.8, p = 0.0066) than patients who did not mean age 26 and mean BMI 26.6. Patients with acne prior to MHT initiation were more likely to develop moderate or severe acne (p = 0.013). No other clinical or demographic characteristics were found to be independent predictors of acne diagnosis or severity.

400 Rates of BCC relative to SCC are higher in younger patients, especially females

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In the United States (U.S.) data on keratinocyte carcinoma (KC) epidemiology has been derived from the Medicare population or regional data. In Medicare patients, the ratio of BCC:SCC in 2012 was approximately 1.1:1 in patients ≥65 years old, but in a regional study of Mayo clinic patients, the ratio of BCC:SCC was higher in patients less than 40 years old. Defining sex and age-specific variations in KC epidemiology could inform targeted public health messaging. The aim of this study was to assess BCC:SCC ratios from adults ≥18 years old. This study utilized the Optum Clininformatics Dataset, a de-identified insurance claims database of patients that broadly represent the U.S. population. Patients with diagnoses of BCC or SCC (invasive or in situ) and a corresponding CPT code for destruction (excision, Mohs surgery, or curettage) were included. A total of 1,321,254 patients were included. The BCC:SCC ratio was 4.76 in patients ≥65 years old (1.46 for males versus 1.94 for females), but in younger age groups were more likely to have BCCs. For every 10-year decrement in age, the odds of having a BCC increased by 1.49 times for women (p < 0.0001) and 1.37 times for men (p < 0.0001). Holding all else constant, the odds of having a BCC were 1.89 times higher for women than men (p < 0.001, 95% CI: 1.78 to 1.96). These data underscore that younger women in the U.S. are more likely to get BCC than SCC and may benefit from targeted detection and prevention strategies for patients.

402 Framing application site discomfort as an efficacy signal improves willingness to continue use of topical medications

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One obstacle to topical therapy adherence is patient perception of treatment safety and efficacy. Medications for atopic dermatitis (AD) can cause application site discomfort (burning, stinging). Framing application site discomfort as an efficacy signal improves willingness to continue use of topical medications. Patients who were counseled that this sensation is an efficacy signal, their willingness is greatly increased (C vs. C: <0.001). Counseling patients to expect a sensation improves their willingness to continue use of a medication (B vs. A: 5.3 vs. 4.4; p<0.001; d=0.46). However, when these patients are further counseled that this sensation is an efficacy signal, their willingness is greatly increased (C vs. A: 6.9 vs. 4.4; p<0.001; d=1.32). Counseling to anticipate application site discomfort and framing such discomfort as an efficacy signal may enhance patients’ adherence to treatment and could potentially be a simple method of improving adherence and patients’ treatment outcomes.

399 Risk of hospitalization due to infection in patients with psoriasis: A population-based cohort study using the UK Clinical Practice Research Datalink

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Psoriasis is associated with multiple comorbidities and treated with systemic therapies that may increase the risk of serious infections. Our objective was to determine whether patients with psoriasis have a higher risk of hospitalization due to infection. We performed a cohort study of adult patients (≥18 years of age) with psoriasis delineated from the UK Clinical Practice Research Datalink (CPRD GOLD) and linked to Hospital Episode Statistics (HES) and national mortality records between 01/04/2003 and 31/12/2016. Each patient with psoriasis was compared to up to 6 individuals matched by age, sex, and primary care practice. Hospitalization due to infection was ascertained in the linked HES records. Unadjusted and adjusted stratified Cox proportional hazard models were estimated, with the adjusted model inclusive of potential continuous cofounders such as lifestyle factors and comorbid conditions. 69,312 patients with psoriasis and 318,598 matched controls with and without psoriasis were followed up for a median of 4.9 years (IQR 5.9) and 5.1 (IQR 6.3) years respectively. Patients with psoriasis had a higher incidence rate of serious infection (20.5/1000 person-years, 95% CI 20.0-20.1, n=7629) compared with those without psoriasis (16.1/1000 person-years, 95% CI 15.9-16.3, n=30756). The unadjusted hazard ratio for serious infection in patients with psoriasis was 1.46 (95% CI 1.42-1.50), and the adjusted hazard ratio was 1.36 (95% CI 1.31-1.40). Psoriasis is associated with an increase in the risk of serious infection. Further research is needed to understand the mechanism by which psoriasis predisposes to a higher risk of infection.

401 Health care expenditures of psoriatic patients with and without comorbid depression

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While the association between psoriasis and depression is well-established, studies investigating the impact of depression on health care expenditures are limited to adult psoriasis patients with commercial insurance or Medicare. We hypothesize that psoriatic patients with depression have higher health care expenditures than psoriatic patients without depression. This retrospective cross-sectional study pooled data from the Medical Expenditure Panel Survey (MEPS), a nationally representative sample of the non-institutionalized United States population, from 2007 to 2015. Patients with one or more psoriasis conditions were identified by a 3-digit ICD code (696). Demographics and health care expenditures were compared between psoriatic patients with and without comorbid depression using Rao-Scott chi2 and design-based Wald t-tests. A total of 1,053 unweighted psoriatic patients were identified from 2007 to 2015, of whom 259 had depression (24.6%). This amounted to 1,479,018 yearly weighted psoriatic patients (95% CI 1,321,254-1,636,781), of whom 365,091 had depression (24.7%, 95% CI 294,040-346,142). Compared to psoriatic patients without comorbid depression, psoriatic patients with depression were more likely to be female (p < 0.001), with lower/normal perceived health status (p < 0.001), covered by Medicare/Medicare (p < 0.013), divorced/separated/widowed (p < 0.008), and had lower BMIs (p < 0.001). Holding all else constant, the health care expenditures of psoriatic patients with depression ($6,707, 95% CI $6,154-$8,249) was significantly higher than those of psoriatic patients without depression ($3,184, 95% CI $2,778-$5,600, p < 0.001). As comorbid depression in adults with psoriasis is associated with higher health care expenditures, identification and management of depression in psoriasis-related visits may improve treatment and reduce cost.

404 Physicians’ ability to determine culprit drug in SJS/TEN and areas for improvement

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Stein-Johnson syndrome (SJS)/Toxic Epidermal Necrolysis (TEN) is a severe drug reaction causing mucocutaneous desquamation with high morbidity and mortality. Central to management is identifying the culprit drug to stop disease progression and recurrence. Little is known about physicians’ approach and ability to identify the culprit drug and consequences of misidentification, especially given better understanding of disease pathogenesis and tools like the algorithm of drug causality for epidermal necrolysis (ALDEN). We retrospectively analyzed SEDEUS and TEN cohorts from 2001-2018 at 2 tertiary centers to determine how often physicians identified a clear drug culprit, and the clinical data and reasoning used. We then applied ALDEN to suspected drugs to re-evaluate physician assessments. Physicians identified a clear drug culprit in 9 cases (18%), relying mostly on the ALDEN algorithm rather than knowledge of commonly used drugs. An association was mentioned in only 1 case, and no physicians referenced patient ethnicity, drug half-life, drug interactions, drug metabolism or a drug scoring system. Yet in 45 cases (92%), at least 1 drug was listed under “allergy” in the medical record, and in 25 cases (51%), 1 drug was listed. ALDEN identified a clear drug culprit in 32 cases (65%), a rate significantly higher than that by physicians’ approach (p < 0.001). It identified culprit drugs physicians missed in 5 cases (10%) and exonerated drugs physicians listed as “allergy” in 21 cases (43%). In 16 cases (33%), ≥1 drugs listed as “allergy” had known or unknown causative effects. Our findings suggest that the algorithm of drug causality for epidermal necrolysis may improve drug culprit identification and avoid potentially harmful drug avoidance recommendations.