The association between topical calcineurin inhibitor use and risk of cancer: A systematic review and meta-analysis

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Topical calcineurin inhibitors (TCI) are commonly used for atopic dermatitis and other inflammatory dermatoses. The U.S. Food and Drug Administration issued a black box warning in 2006 regarding the risk of malignancy with TCI use based primarily on case reports, animal studies, and systemic tacrolimus use in organ transplant recipients. Since then, large epidemiologic studies have examined the association between TCIs and cancer; we conduct a systematic review and meta-analysis of study results to synthesize the evidence. We searched Medline, Embase, and Web of Science from inception to August 2020. We included observational studies investigating the association between treatment with TCIs (tacrolimus, pimecrolimus) and development of cancer, with non-active or active comparators. A total of 8 cohort studies (486,164 participants) generated 1,764,313 non-active comparator controls, 1,067,280 controls using topical corticosteroids and 3 case-control studies (3,898 cases and 14,026 cancer-free controls) were included. There was no association between TCI use and cancer overall compared to non-active comparators (relative risk (RR) 1.03, 95% confidence interval 0.92 to 1.16). Lymphoma risk was elevated with TCI use in studies with non-active (RR 1.86, 1.39 to 2.49) more than topical corticosteroid comparators (RR 1.11, 0.63 to 1.95), which may be partly explained by indication. No significant association was found between TCI use and skin cancer. In summary, we found TCI use to be associated with a modestly elevated risk of lymphoma but not with other cancers. Given the low absolute risk of lymphoma, patients and clinicians should be reassured by these findings.

Acute opiate use in emergency department patients: A population-based study using the national ambulatory medical care survey

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The role of dermatologists in the opioid epidemic is unknown. While dermatologists perform many procedures and treat many painful skin conditions, there is a knowledge gap in understanding their pain medication management. This study sought to analyze patterns in oral pain medication prescriptions in emergency department patients. We conducted a population-based study using the National Ambulatory Medical Care Survey from 2009 to 2016. Among 288,462,610 weighted visits, 3,650,070 (1.3%) of visits included an oral opiate prescription. Major reasons for prescription were for dermatitis (34.5%), chronic skin hygiene, and AD severity (54.1%) were collected. Descriptive statistical analyses were performed. The population, median age, and race distribution were: 27% age 18-29; 29% age 30-39; 19% age 40-49; and 25% age 40-49. 77% had childhood eczema and 18% were diagnosed after age 21. 40% of patients self-reported having asthma and 60% self-reported having seasonal allergies. Notably, 94% routinely applied emollient and 72% had consulted Dermatology prior to visiting COE for an unrelated condition, while 45% had a primary care provider. Despite this, 85% of patients reported washing their eczema every time they bath, most often with liquid soaps. AD severity was distributed as: 11.1% mild (EASI 1-7.0); 41.7% moderate (EASI 7.1-21.0); 9.7% severe (EASI 21.1-50.0); and 37.5% very severe (EASI 50.1-72). Our findings are consistent with an increasing recognition of adult-onset AD, with nearly one-fifth of this Canadian cohort being diagnosed after age 21. A majority of patients had previously consulted with Dermatology but remained uncompliant or unaware of general measures such as avoidance of soaping. Our findings highlight both a high prevalence of adult AD and unmet needs for knowledge translation.

Cross-sectional descriptive study: First adult atopic dermatitis clinic in Canada

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The natural history of atopic dermatitis (AD) in adulthood remains poorly understood. Adults with AD struggle chronically throughout their lives, and often have severe or resistant dermatitis. In North America, adult patients were previously orphaned from on-label systemic and oral treatments. Studies remain limited. This led to the establishment of the first adult AD-dedicated Canadian tertiary clinic in 2018, the McGill University Hospital Network Centre of Excellence for Adult AD (McGill COE-AD), to have a need to describe its patient population. The purpose of this study was to characterize the first adult AD clinic in Canada and its population. A cross-sectional questionnaire was administered to 122 patients at McGill COE-AD from April 2018 to November 2020. Patient age, gender, age at diagnosis, lifetime AD severity, AD skin hygiene, and AD severity (EASI) were collected. Descriptive statistical analyses were performed. The population, median age, and race distribution were: 27% age 18-29; 29% age 30-39; 19% age 40-49; and 25% age 40-49. 77% had childhood eczema and 18% were diagnosed after age 21. 40% of patients self-reported having asthma and 60% self-reported having seasonal allergies. Notably, 94% routinely applied emollient and 72% had consulted Dermatology prior to visiting COE for an unrelated condition, while 45% had a primary care provider. Despite this, 85% of patients reported washing their eczema every time they bath, most often with liquid soaps. AD severity was distributed as: 11.1% mild (EASI 1-7.0); 41.7% moderate (EASI 7.1-21.0); 9.7% severe (EASI 21.1-50.0); and 37.5% very severe (EASI 50.1-72). Our findings are consistent with an increasing recognition of adult-onset AD, with nearly one-fifth of this Canadian cohort being diagnosed after age 21. A majority of patients had previously consulted with Dermatology but remained uncompliant or unaware of general measures such as avoidance of soaping. Our findings highlight both a high prevalence of adult AD and unmet needs for knowledge translation.

Association of stroke with psoriasis in end-stage renal disease patients

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Previous research in the general population suggests that the inflammatory skin disease psoriasis is associated with an increased risk of vascular events, such as stroke. Thus, psoriasis may also represent a significant risk factor for stroke in dialysis patients. We queried the United States Renal Data System for incident dialysis patients between 2004 and 2015. Psoriasis was defined as having at least two ICD-9 or ICD-10 diagnosis codes. ICD codes were also used to query the outcome of interest, stroke, as well as other clinical risk factors. Logistic regression was used to examine the association of psoriasis and other risk factors with stroke. Of 966,199 end-stage renal disease (ESRD) patients, we identified 89,700 (9.3%) subjects with stroke and 6,286 (0.7%) with psoriasis. Of the 6,286 patients with psoriasis, 796 (12.6%) had had a stroke. Owing to the relatively low prevalence of patients with stroke, the final adjusted OR was 1.40 (SD: 0.74). In adjusted analysis, non-white race, female sex, and younger age were associated with significantly fewer wRVUs per encounter. Dermatology visits with Black patients generated 0.26 (95% CI: 0.254-0.280) fewer wRVUs/encounter compared to white patients. Female sex was also associated with 0.111 (95% CI: 0.101-0.122) fewer wRVUs/encounter, and wRVUs/ encounter increased by 0.06 (95% CI: 0.06-0.06) with each 10-year increase in age. Destruction of premalignant lesions and biopsies were strong mediators of the observed race, sex, and age differences. In conclusion, dermatology encounters among persons of color and women generate fewer wRVUs than those with white males. Dermatologist compensation based on wRVUs may incentivize provision of specific services, exacerbating differential access to care and disparities in healthcare outcomes.

Psychiatric comorbidity in prurigo nodularis and the impact of socioeconomic status

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Prurigo nodularis (PN) is a poorly understood chronic condition of intense pruritus. Psychiatric disorders may perpetuate the disease and pose a potential therapeutic target given the paucity of efficacious PN treatments. Understanding the impact of socioeconomic status (SES) on PN patients and clinicians address mental health in this population. This study assessed the relationship between SES and incidence of psychiatric comorbidity among PN patients and quantified the utilization of mental health services. A retrospective chart review of PN patients from 2007-2019 was performed. Per capita income by zip code (US Census Bureau) was compared to the Livable Income Threshold by county (Met Living Wage Calculator). To determine SES as follows: below the LIT, <100% above LIT, >100% above LIT, >200% above LIT and >300% above LIT. Wilcoxon, Chi-square, and Fisher's exact tests were used to test the associations of diagnoses and categorical variables, respectively. Of 288 patients, 57% were female and significantly more likely to have a psychiatric disorder than men (51% vs 32%, p<0.001). 44% of patients had at least 1 psychiatric comorbidity, with mood (75%) and anxiety (63%) disorders being most common. Median income was $34,775 and 25% of in comes were below the LIT. Lower SES groups had a higher incidence of psychiatric disorders (48% vs 43%, p<0.04) and utilization of mental health services (60% vs 46%, p=0.23). 41% of patients with a psychiatric disorder had no record of psychiatrists or psychologist visits. PN patients from lower SES backgrounds may require medication and hospitalization. Our results highlight a gap in care, as a significant proportion of patients lacked psychiatric evaluation regardless of SES. Women and lower SES groups may have less access to mental health care and may require additional screening for psychiatric comorbidities. These results emphasize the need for vigilant psychosocial evaluation and support in the PN population.