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 treating atopic dermatitis and other inflammatory dermatoses. The U.S. Food and Drug Administration issued a black box warning in 2006 about an increased risk of malignancy with TCI use based primarily on case reports, animal studies, and systemic calcineurin use in transplant recipients. Subsequently, large epidemiologic studies have examined the association between TCIs and cancer; however, the risks of TCIs relative to other immunosuppressants is not well established. Thus, we performed a systematic review and meta-analysis of studies that attempted 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 (calcineurin, pimecrolimus) and development of cancer, with non-active or active comparators. A total of 8 cohort studies (488,476 included participants, 21,760 cancer cases and 1,764,313 non-cancer 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) and more than topical corticosteroid comparators (RR 1.50, suggesting the risk may be partially accounted for 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.

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 through their lives, and often have severe or resistant dermatitis. In North America, adult patients were previously orphaned from on-label treatments, with support and real-world data limited. This led to 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), with 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, atopic history, skin hygiene and AD severity (EASI) were collected. Descriptive statistical analyses were performed. The population, 56% female, had age distributed as: 27% age 18-29; 29% age 30-39; 19% age 40-49; and 25% age >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 emollients and 72% had consulted Dermatology prior to visiting COE-AD for uncontrolled disease, while 45% had a primary care provider. Despite this, 85% of patients reported washing their eczema each time they bathe, most often with liquid soaps. AD severity was distributed as follows: 11.1% mild (EASI 1-7.0); 41.7% moderate (EASI 7.1-12.9); 7.9% severe (EASI 12.1-50.0); 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.

Opiate use in dermatology in the United States: 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 characterize patterns in oral pain medication use among dermatology patients. We conducted a population-based study using the National Ambulatory Medical Care Survey from 2007 to 2016. Among 288,462,610 weighted visits, 3,650,070 (1.3%) of visits included an oral opiate prescription. Other oral pain medications included non-steroidal anti-inflammatory medications, 1,932,515 (0.7%) of visits included acetaminophen prescriptions, and 1,593,134 (0.6%) of visits included gabapentin prescriptions. Overall, 41.4% of visits for dermatology were for dermatology-dedicated services, and 29.4% were for dermatology-related services. With the highest rates of opiate prescribed included vitiligo (10.3%), hemangoma (3.8%) and prurigo (3.6%). Increasing patient age (p < 0.001) and Northeast and West geography (p < 0.02) were significantly associated with increased opiate prescription. Opiates were prescribed more frequently to patients with certain risk factors for uncontrolled pain, such as cancer, renal failure, and significant pruritus. The results of this study indicate that dermatologists, like other general practitioners or dermatology specialists, may be underutilizing pain medication. Our results highlight a gap in care, as a significant proportion of patients lacked psychiatric evaluation regardless of sex. Women and lower SES groups may have less access to pain management and thus require medication and hospitalization. Our results highlight a gap in care, as a significant proportion of patients lacked psychiatric evaluation regardless of sex. Women and lower SES groups may have less access to pain management and thus require medication and hospitalization.