A018

EPINEPHRINE AUTOINJECTOR UTILIZATION AND ACCESS IN A NATIONALLY REPRESENTATIVE FOOD-ALLERGIC ADULT SAMPLE

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Introduction: Food allergy (FA) affects over 32 million people in the United States. Timely epinephrine access is vital to treat FA-induced anaphylaxis. Research has demonstrated that only about half of FA patients have immediate access to epinephrine autoinjectors (EAIs). With the rising prevalence of adult-onset FA, more research is needed to understand epinephrine utilization in FA adults.
Methods: An online, IRB-exempt survey was developed by a multidisciplinary team of patient advocacy groups, physicians, caregivers, and survey methodologists to capture FA community needs. A nationally representative sample of adult FA patients was recruited by Evaluative Criteria Inc. in May 2022.
Results: 1,006 FA adults completed the survey. Among the sample, 61% self-identified as Caucasian, 16% as Black, 15% as Hispanic, and 7% as Asian, Native American, or Other. Only 52% of adults reported having ever been prescribed an EAI. The top reported reasons for access gaps were "my doctor did not indicate it was really needed," and "I don't believe I need it." A history of EAI prescriptions was highest among those with private health insurance (59% through employer, 68% self-purchased) and lowest among those on Medicare (48%) and Medicaid (51%). Only 33% of adults reported having an unexpired EAI, and fewer (25%) always had access to EAIs. **Thirty-six percent** of adults believe that EAIs can cause life-threatening side effects. On average adults reported paying $476 (SD = $971) out-of-pocket in the past year for EAIs.
Conclusions: Expanding EAI use and access among FA adults should be a priority for physicians, patient advocacy organizations, and beyond.

Skin Disorders

A020

UNDERSTANDING HOST-MICROBIAL INTERACTIONS THAT PREDISPOSE INFANTS TO ATOPIC DERMATITIS

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Introduction: The development of Atopic Dermatitis (AD) is largely multi factorial. This study utilized multi-omic analyses to determine the complex network of host immunological and microbial interactions in AD.
Methods: 125 term infants were included in this longitudinal cohort study. Infants were dichotomized as AD (n=35) or non-AD (n=90) based on parental responses on the Infant Feeding Practice survey at 1,4,6,12 months (confirmed with review of medical records). At 6 months, saliva was collected for analysis of microRNAs, cytokines, and microbial RNA. AD severity was assessed with the Scoring Atopic Dermatitis (SCORAD) tool.
Results: One cytokine ratio, two microRNA (miR-375-3p, miR-21-5p) and one bacterial phylum differed between groups ($p < 0.05$). The ratio of Th1 and Th2 cytokines (IL-8/IL6) was higher ($d = 0.33$, $p = 0.041$) among infants with AD. Levels of miR-375-3p were lower ($d = -0.50$, $p = 0.009$), and miR-21-5p were higher among infants with AD ($d = 0.37$, $p = 0.007$). Alpha diversity of bacterial RNA expression (Simpson index) was higher among infants with AD ($d = 0.61$, $p = 0.001$). Proteobacteria was positively correlated with miR-375-3p ($R = 0.32$, $p = 0.017$). Additionally, AD severity was positively correlated with Proteobacteria levels ($R = 0.21$, $p = 0.010$).
Conclusion: Elevated levels of pathogenic Proteobacteria may directly induce inflammatory cytokines. Alternatively, Proteobacteria may elicit host microRNA responses, which impacts production of IL-6 and IL-8. Therefore, host immunological and microbial predispositions may influence the pro-inflammatory environment in AD.

A021

CANCER RISK WITH TOPICAL PIMECROLIMUS AND TACROLIMUS FOR ATOPIC DERMATITIS: SYSTEMATIC REVIEW AND BAYESIAN META-ANALYSIS

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Introduction: Atopic dermatitis (AD) affects millions worldwide and is effectively managed by topical treatments, including the topical calcineurin inhibitors (TCIs), pimecrolimus and tacrolimus. In 2005 and 2011, the FDA released reviews associating TCIs with theoretical cancer risk, albeit with uncertainty. We systematically reviewed the cancer risk in patients with AD exposed to TCIs.
Methods: The AAAAI/ACAAI Joint Task Force on Practice Parameters systematically identified randomized controlled trials (RCT), comparative, and non-comparative non-randomized studies (NRS) from inception to June 6, 2022, from MEDLINE, EMBASE, GREAT, LILACS, ICTRP, FDA, EMA, company registers, and relevant citations. We included studies in any language addressing the risk of cancer in patients with AD exposed to TCIs for greater than 3 weeks. We excluded split-body studies. We conducted a random-effects Bayesian meta-analysis and used GRADE to rate the certainty of evidence. A multidisciplinary panel including patient partners determined thresholds for important risks.
Results: We analyzed 121 studies (52 RCT, 69 NRS) including 3.4 million patients followed for a mean of 11 months (range 0.7 −150). The absolute risk of any cancer with TCI exposure was neither different from controls (absolute risk: 4.70 per 1000 with TCI, versus 4.56 per 1000 without; odds ratio: 1.03 [95%CrI 0.94 −1.11], moderate-certainty evidence), nor the general U.S. population (4.6 per 1000). Findings were similar in infants, children, and adults, and were robust to trial sequential, subgroup, and sensitivity analyses.
Conclusion: Among infants, children, and adults with AD, moderate-certainty evidence shows that TCIs are not associated with increased cancer risk. These findings support the safe use of TCIs in the management of patients with AD.

A022

EFFICACY OF HOUSE DUST MITE IMMUNOTHERAPY IN PATIENTS WITH ATOPIC AND CONTACT DERMATITIS OVERLAP SYNDROME

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Introduction: Allergen-specific immunotherapy may modify chronic inflammation in patients with allergic overlap syndrome, including atopic dermatitis and contact allergy.
Methods: A randomized, double-blind, placebo-controlled study was conducted. 81 patients aged 18 to 60 years with atopic and contact dermatitis were included. The main criterion for inclusion in the