Yet risk factors and association with IBD natural history and biomarkers of IBD severity have not been fully described. We sought to characterize the prevalence, risk factors, and biomarkers of severity associated with cutaneous inflammatory conditions in a prospective cohort of IBD patients followed over a multiyear time period. Importantly, about 4,215 IBD adult patients (n = 73,114; 7.4% patients had an inflammatory dermatologic condition. Dermatologic conditions included eczema (34.9%), psoriasis (23.9%), erythema nodosum (22.5%), pyoderma gangrenosum (11.8%), hidradenitis suppurativa (6.1%), and perniosis and bullous pemphigoid (0.9%). IBD patients carried one (89.7%), two (9.3%), or three (1.0%) dermatologic diagnoses. This study was significantly associated with female gender (p < 0.001), Crohn’s disease (CD) (p = 0.03), increased CD activity (Harvey-Bradshaw index) (p < 0.001), lower quality of life (short inflammatory bowel disease questionnaire (p = 0.013), requirement for more aggressive medical therapy (systemic steroids, immunomodulators, and biologics) (p < 0.001), history of intestinal resection (p < 0.001), peripheral blood eosinophilia (p < 0.001), peripheral blood monocytosis (p < 0.001), low vitamin D (p = 0.008), albumin (p < 0.001), and hemoglobin (p < 0.001), and elevated C-reactive protein (p < 0.001) and erythrocyte sedimentation rate (p < 0.001). IBD patients with dermatologic manifestations represent a distinct subgroup with increased inflammatory activity, more aggressive multiyear trajectories, and an increased association with novel biomarkers including peripheral blood eosinophilia and monocytosis highlighting the need for individualized treatment approaches.

Understanding diversity in eczema clinical trial participation

Thibau and W Smith Begolka National Eczema Association, Novato, California, United States

Eczema clinical trials (CT) are rapidly increasing in number, yet clinical trial participation (CTP) is low with motivations and considerations for CTP poorly understood. Diversity and representation in CTP is also a challenge across many diseases, including eczema, limiting application of CT findings to underrepresented groups. To address these gaps, the National Eczema Association administered a 46-question online survey; collecting data from 1,858 adult eczema patients and caregivers of children age 0-17 (respondents: 72% White, 10% Black, 10% Asian, 8% Multiracial/Other) on CTP interest, literacy, and factors of importance for CTP. While previous CTP and current CTP consideration/attempts enrolled did not vary by respondent race or Hispanic ethnicity (range 8.8-11.6% and 12.1-19.8% respectively), mean rank of future likelihood to participate in CTP was lowest for respondents of Asian race (p = 0.039) and Black (p = 0.042) respondents and “inclusion” in Black (p = 0.025) respondents. Of the top 5 most important factors when considering eczema CT, Black respondents more highly rated the potential to receive better care (p = 0.002) and having in depth knowledge about the drug (p = 0.009; n = 596) while Asian respondents rated these factors lower. Trust in CT doctor/site, potential side effects, and having rescue therapy did not significantly differ with race. Non-Hispanic respondents rated several factors lower than Hispanic. (p = 0.001); ability to be compensated, approval from family and friends, and having a supportive community (all p < 0.001). While this study did not corroborate known disparities in previous or interest in eczema CT, it does provide insights into universally important topics for eczema patients and caregivers regarding interest and motivations of CTP as well as areas of potential emphasis by race that may support strong recruitment strategies and CTP design to improve CTP and diversity in eczema clinical trials.

Risk of opportunistic, viral, and hospitalized infections in atopic dermatitis

J Wan, D Shin, M Syed, A Abuharara and J Gelland 1 University of Pennsylvania, Philadelphia, Pennsylvania, United States

Atopic dermatitis (AD) is classically linked to Staphylococcal and herpes simplex virus (HSV) infections but the incidence of opportunistic, hospitalized and other viral infections is less clear. In a cohort study using U.K. population-based electronic health data, we examined the association between AD and opportunistic infections (e.g. invasive mycoses, tuberculosis, pneumocystis, viral infections [HSV, cytomegalovirus [CMV], varicella zoster [VZV] and Epstein-Barr virus [EBV]) and hospitalized infections. AD severity was time-updated using treatments as a proxy; moderate AD was defined by ≥2 potent topical steroid or calcineurin inhibitor prescriptions within 1 year and severe AD by systemic medication or phototherapy use; and severe AD (≥16 years old) was defined by ≥2 hospital encounters within 18 years old with ≥1 hospitalizations and ≥19 hospital controls. In Cox regression analysis adjusted for sociodemographics and comorbidities, both children and adults with AD were at greater risk for hospitalized infection compared to controls (HR 1.43; 95% CI = 1.29-1.57; p < 0.0001). Major AD severity (18 years old) was associated with having ≥4 hospital encounters (HR 1.56; 95% CI = 1.41-1.72, p = 0.0001), including VZV and HSV. CMV risk was also elevated in children of all AD severities. Our results suggest an increased risk of opportunistic, hospitalized and viral infections in patients with AD, even among those not receiving immunosuppressive therapy. Future studies are needed to dissect the mechanisms driving infection risk in AD.

Atopic dermatitis and the risk of developing rheumatoid arthritis - A population-based cohort study

M Syed, A Barrie2, J Harrison2, M Schwartz2, D Babichenko2, G Tang2 and DG Binion2 1 University of Pittsburgh Medical Center, Pittsburgh, Pennsylvania, United States

Rheumatoid arthritis (RA) is a chronic inflammatory disease linked to a larger issue of immune dysfunction. Data is scarce on its association with other chronic inflammatory conditions such as rheumatoid arthritis (RA), particularly in both adults and children. We aimed to assess the risk of RA in patients with AD, stratified by age, after adjusting for traditional risk factors, using a previously validated algorithm. A population-based longitudinal cohort study from 1994-2015 was performed using a UK based electronic medical records database generalizable to the general population. The Health Improvement Network (HIN) included 4,036 adult patients with moderate to severe AD (median age 41.31 pe AD patients were matched on age, practice, and index date to 2,678,888 adult and 1,809,029 pediatric unexposed controls. Hazard ratios (HRs) were calculated using Cox regression models. Covariates included age, sex, Townsend index, allergic rhinitis, and both age group and sex interactions. We observed an increased risk of incident RA in AD patients (<18y HR 1.18; 95% CI 1.14-1.17); (≥18y HR 1.18; 95% CI 1.13-1.22). Further stratifying by the severity of AD, estimated by treatments prescribed, the risk of developing RA was higher in adults and children with severe AD compared to controls (HR: 5.64; 95% CI 5.189-6.13; and HR: 8.35; 95% CI 5.61-12.38) respectively. Effects were attenuated in both pediatric and adults patients with mild (<18 y HR: 1.16; 95% CI 0.94-1.44) <18y HR: 0.95; 95% CI 0.76-1.22) and moderate (<18y HR: 1.17; 95% CI 0.72-0.91) ≥18y HR 1.01; 95% CI 0.97-1.10). Our findings from a large population-based cohort suggest an overall increased risk of RA in patients with AD, with the association primarily limited to patients with severe AD. This sets the stage for future studies with potential underlying mechanisms, such as overlapping therapies or shared pathophysiology.