162 Association of dermatologic manifestations of IBD with natural history and biomarkers of severity
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Dermatologic inflammatory conditions are one of the most common extraintestinal manifestations of inflammatory bowel disease (IBD), 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 multi-year period. A total of 4,213 IBD adult patients with IBD, 313 (7.4%) 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 pemphigus and bullous pemphigoid (0.9%). IBD patients carried one (89.7%), two (9.3%), or three (1.0%) dermatological diagnoses. Multivariate analysis was significantly associated with female gender (P < 0.01), Crohn's disease (CD) (P = 0.03), increased CD activity (Harvey-Bradshaw index (P = 0.003), lower quality of life (short inflammatory bowel disease questionnaire (P = 0.013), requirement for more aggressive medical therapy (steroidic, immunomodulators, and biologics) (P < 0.01), history of intestinal resection (P < 0.001), peripheral blood eosinophilia (P < 0.001), peripheral blood monocytes (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 biology including peripheral blood eosinophils and monocytes highlighting the need for individualized treatment approaches.

164 Understanding diversity in eczema clinical trial participation
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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 CT 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 1,285 adult eczema patients and caregivers of children age 0-17 (respondents: 72% White, 10% Black, 10% Asian, 8% Multiracial/Other) on CT interest, literacy, and factors of importance for CTP. While previous CT and previous CT attempt/consideration/attempt enrollment 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 CT was lowest for respondents of Asian race (< median) while the likelihood was highest among respondents of White race (7.8). Likelihood to participate in CT was most strongly positively correlated with self-reported understanding of the term “randomization” in White (p < 0.001) and Black (p = 0.02) 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 < 0.001) and having in depth knowledge about the drug (p < 0.09; 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; abilities 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 understanding the effectiveness of an intervention, but not all RCTs are well-conducted or well-reported. Reporting a priori power and sample size calculations for the primary outcome can help increase a clinician’s confidence in the results of an RCT. Objectives: We aimed to assess the methodology related to power of sample size, and outcome reporting in RCTs. Methods: We conducted a meta-epidemiologic review of sample size calculations and primary outcome reporting in RCTs published in the ten highest-impact dermatology journals according to the 2019 Science Citation Index, from 2015 - 2019. Results: We screened 2,939 articles and included 205 from eight journals in the final analysis. The majority of studies (N = 155, 76%) reported power and sample size calculations, though only 7 studies (3%) explicitly reported calculating sample size a priori and 147 studies (72%) were unclear in their reporting. Most studies (143/205, 70%) reported a clearly defined primary outcome with an associated time-frame. Of the studies that reported power and sample size calculations, 87 (42%) were reported in a reproducable and complete manner (with full reporting of n, β, effect size, and standard deviations for continuous outcomes). Of 146 studies that reported both a calculated and final sample size, 124 (85%) achieved at least their calculated-sample size. Conclusions: Sample size calculation and primary outcome reporting in RCTs in the dermatology literature is suboptimal. Improved reporting of these methodological parameters will help clinicians evaluate and interpret the results of RCTs and apply their findings to their patients.

166 Risk of opportunistic, viral, and hospitalized infections in atopic dermatitis
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Atopic dermatitis (AD), a prevalent and often persistent skin disease, is associated with immunity 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, to obtain risk 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 (THIN)]. 14,133 adult patients with AD were matched on age, practice, and index date to 2,678,886 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 groups (≥50 years old and < 50 years old). We observed an increased risk of incident RA in AD patients (<18y HR 1.38; 95% CI 1.14-1.67; >18y HR 1.18; 95% CI 1.11-1.22). 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 (<18y HR: 1.16; 95% CI 1.04-1.44; >18y HR: 0.95; 95% CI 0.79-1.15), moderate (HR: 18y HR 1.17; 95% CI 0.72-1.91) among severe AD. 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 to dissect the mechanisms driving infection risk in AD.

167 Comorbidities among children with hidradenitis suppurativa
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Comorbidities among children with hidradenitis suppurativa (HS) have been extensively explored, however there is limited research on comorbidities among HS with HS. The objective of this study was to determine the prevalence of comorbidities among pediatric patients with HS using an aggregated, de-identified patient database. Pediatric patients (<18 years of age) with HS were identified in Exposy, a cloud-based electronic health record database composed of over 360 hospitals. Pediatric patients between 5 and <18 years old were used as controls, as all children with HS were ≥5 years old. Of the 8,856,840 children identified, 1,590 children had a diagnosis of HS. The most common comorbidities were obesity (29.56%, OR 27.31, 95% CI 24.52-30.42, p < 0.0001), asthma (27.67%, OR 4.04, 95% CI 3.62-4.51, p < 0.0001), contact dermatitis (25.16%, OR 3.63, 95% CI 3.24-4.06, p < 0.0001), acne vulgaris (15.09%, OR 26.36, 95% CI 22.97-30.25, p < 0.0001), seasonal allergy (14.59%, OR 4.01, 95% CI 3.62-4.47, p < 0.0001), atopic dermatitis (14.47%, OR 5.44, 95% CI 4.73-6.26, p < 0.0001), acanthosis nigricans (12.58%, OR 61.53, 95% CI 54.74-73.73, p < 0.0001), attention deficit hyperactivity disorder (11.32%, OR 1.21, 95% CI 1.07-1.37, p = 0.001), and generalized anxiety disorder (4.40%, OR 9.34, 95% CI 3.51-18.8, p < 0.0001). These findings suggest children with HS are more likely to have hyperlipidemia (5.66%, OR 11.82, 95% CI 11.17-17.10, p < 0.0001), essential hypertension (3.14%, OR 13.43, 95% CI 10.11-17.81, p < 0.0001), and attention deficit hyperactivity disorder (1.27%, OR 64.29, 95% CI 4.69-847.13, p < 0.0001).