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Association of psychiatric comorbidities in patients with chronic itch

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Chronic pruritus has been correlated with higher incidences of psychiatric disturbances. To better characterize the relationship between chronic itch and psychiatric diagnoses, chart review of 756 adult patients diagnosed with non-psychogenic chronic itch seen in our tertiary itch clinic from January 2017 through March 2019 was completed. Patients were divided based on the presence (n = 131) or absence (n = 625) of comorbid psychiatric conditions. Data regarding dermatologic diagnoses, validated itch questionnaire responses, and demographics was collected for both groups. Psychiatric diagnoses were present in 131 patients (17.3%) with an average age of 56 years (range = 21-92). The most common etiologies of chronic itch among those with psychiatric diagnoses were inflammatory skin disorders (ie psoriasis, atopic dermatitis) (n = 68, 51.9%), neuropathic itch (n = 32, 24.4%), and chronic pruritus of unknown origin/age-related pruritus (n = 20, 15.3%). The most prevalent psychiatric diagnoses included anxiety disorders (n = 70, 53.4%), major depressive disorder (n = 61, 46.6%), and adjustment disorder (n = 15, 11.5%). Patients with and without comorbid psychiatric diagnoses had similar average 24-hour NRS ratings for itch severity (6.3 vs 6.4) and 24-hour worst itch severity (8.1 vs 8.0). Those with psychiatric diagnoses were more likely to report localized itch than those without (52.7% vs 43.7%). Interestingly, impact on sleep was more prevalent in those without psychiatric diagnosis compared with the psychiatric diagnosis group (41.2% vs 39.0%). This study helps to elucidate the types of psychiatric diagnoses associated with chronic itch and describe the similarities and differences in itch characteristics between those with psychiatric conditions and those without.

Commercial disclosure: None identified.

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A retrospective cohort: Genomic differences between pigmented spindle cell nevus of reed and reed-like melanomas

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Background: Some melanomas closely resemble pigmented spindle cell nevus (PSCN) of Reed histologically. The distinction of these entities is important for clinical management. A recent study showed most PSCN (78%) are fusion driven, commonly involving NTRK3 (57%). Conversely, BRAF V600E mutations are not characteristic of PSCN but are frequent in melanoma.

Methods: We performed BRAF V600E immunohistochemistry (IHC) for 18 PSCN and 20 Reed-like melanoma (RLM) cases. All 23 benign PSCN cases previously underwent whole transcriptome and targeted DNA sequencing with a 1711-gene panel.

Results: We previously demonstrated the majority of PSCN (18 of 23) have chimeric fusions. Among PSCN without a chimeric fusion, BRAF mutations were common. Noncanonic BRAF mutations were identified in 2 of 5 nonfusion cases and 1 case had a canonic BRAF mutation. Alternatively, 70% of RLM demonstrated a BRAF V600E mutation. RLM also occurred more frequently in older patients.

Conclusions: In diagnostically challenging cases, ancillary IHC studies can assist in distinguishing PSCN from RLM. Our study suggests positive staining by IHC for BRAF V600E and older age strongly favors a diagnosis of RLM.

Commercial disclosure: None identified.

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Measuring and improving adherence to topical crisaborole in patients with atopic dermatitis

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Background: Long-term adherence to topical treatment in patients with atopic dermatitis (AD) is not well characterized. Measures to improve adherence could improve treatment outcomes.

Objective: To evaluate adherence to topical therapy using data collected by the Medication Electronic Monitoring System (MEMS) cap in patients with AD and the impact of an internet-reporting intervention on adherence.

Methods: The subjects were randomized into two groups. After baseline visit, subjects returned for 1 month, 3 months, 6 months, and 12 months visits. The intervention group completed an online treatment response survey weekly for 6 weeks, then monthly. At follow-up visits, MEMS caps and data were read and recorded. Investigator Global Assessment (IGA), Eczema Area and Severity Index (EASI), Visual Analog Scale (VAS), and Hamilton Depression Rating Scale (HAM-D) were completed at every visit.

Results: Adherence was defined as percentage of prescribed doses taken. On average, adherence was higher for adults (44%) than pediatric patients (29%). For adult patients who terminated the study early, the average VAS score was 4.5, whereas adults who completed the study had an average VAS of 1.6. Pediatric patients who terminated the study early had an average VAS of 4.2 at last visit, whereas patients that completed the study had an average VAS <1 at their last visit.

Conclusions: Adherence to topical crisaborole was poor and worse in children than in adults. Poor adherence prevents patients from getting the full benefit of the treatment. Further interventions to improve adherence are desperately needed.

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Reflectance confocal video microscopy reveals altered cutaneous microcirculation in acute graft-versus-host disease: A cross-sectional study

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Background: Accurate diagnosis of cutaneous acute graft-versus-host disease (aGVHD), a leading cause of morbidity and mortality following hematopoietic cell transplantation (HCT), remains a significant clinical challenge. Skin biopsies are often nonspecific, and there is a lack of reliable biomarkers. Evaluation of dynamic leukocyte motion in skin capillaries may provide novel imaging biomarkers. In this study, we aimed to determine the feasibility of nine quantitative parameters extracted from reflectance confocal videos to distinguish between aGVHD and post-HCT control patients. Noninvasive imaging biomarkers could enable tracking of disease development and supplement clinical decision-making.

Methods: We used a reflectance confocal microscope (Vivascope 1500, Caliber ID) to image the volar forearm and upper chest skin of ten cutaneous aGVHD and ten post-HCT patients with no organ aGVHD (controls). Through video analysis by Fiji software, we determined nine quantitative parameters: capillary density and size, number and size of adherent, stuck and rolling leukocytes, and time of leukocyte being stuck.

Results: We found an increased number of rolling (median of 3 vs 1) and adherent (median of 3 vs 1) leukocytes in aGVHD patients compared with post-HCT controls. We report the distribution and comparison of all nine parameter values in both study groups.

Conclusions: We present unique leukocyte-endothelial interactions in aGVHD. Future studies could track the change in these microcirculation parameter values over time after HCT. Changes in cutaneous microcirculation may occur early, before clinical signs of disease.

Commercial disclosure: None identified.