Since January 2020 Elsevier has created a COVID-19 resource centre with free information in English and Mandarin on the novel coronavirus COVID-19. The COVID-19 resource centre is hosted on Elsevier Connect, the company's public news and information website.

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Atopic dermatitis is not associated with maternal alcohol use or alcohol use during adolescence

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Multiple environmental risk factors contribute towards atopic dermatitis (AD) prevalence and persistence. Maternal alcohol consumption during pregnancy may have pro-inflammatory effects leading to AD in their offspring. Moreover, AD is associated with chronic sleep disturbance, psychosocial distress, stigma, social isolation, anxiety and depression, which might lead to increased alcohol consumption in children and adolescents. We sought to understand the association between 1. maternal alcohol consumption during pregnancy and childhood AD; 2. AD and alcohol use in adolescents. We used data from the Fragile Families and Child Wellbeing Study, a longitudinal US birth cohort study of 4898 urban children. Maternal alcohol use during pregnancy was not associated with the development of AD in offspring at ages 5 (logistic regression; adjusted OR [95% CI]: 1.01 [0.72-1.41], P=0.95) or 9 (0.92 [0.68-1.25], P=0.70). There was a cross-sectional association between maternal alcohol use in the past year and AD at ages 5 (1.30 [1.06-1.60], P=0.04) and 9 (1.50 [1.23-1.82], P=0.0007). There were no associations between paternal alcohol use in the past year and AD at ages 5 (0.80 [0.63-1.02], P=0.12) or 9 (0.79 [0.62-1.00], P=0.12). At age 15 years, AD was not associated with increased alcohol use (1.64 [0.83-3.23], P=0.22). In conclusion, there was no association between the alcohol use during pregnancy and development of childhood AD. Childhood AD was not associated with increased alcohol use in adolescence but was associated with increased maternal alcohol consumption in childhood.

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Correlation of the peripheral blood CD4/CD8 ratio with the disease stage and overall survival in mycosis fungoides

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Mycosis fungoides (MF) is the most common type of cutaneous T-cell lymphoma. The cutaneous manifestation of MF ranges from a patch stage to a more severe plaque or tumor stage. A hallmark of MF is an increased CD4+ T cell population, which results in a high CD4/CD8 ratio. Previous studies have shown the CD4/CD8 ratio is a prognosticator of response to radiation therapy, but the prognostic value of the CD4/CD8 ratio for disease progression or overall survival in MF patients remains unclear. Here, we investigated correlation of the peripheral blood CD4/CD8 ratio with the disease stage (patch, plaque or tumor) and overall survival in 18 MF patients. We monitored disease progression clinically and performed serial peripheral blood flow cytometry over an average follow up time of 79 months. A total of 85 data points of CD4/CD8 ratio were collected (12 in patch, 59 in plaque and 14 in tumor stage). A Student's t-test showed no difference in the CD4/CD8 ratios between patch and plaque stage MF (P-value=0.3) or between patch and tumor stage MF (P-value=0.6). When the CD4/CD8 ratio was categorized to high or low using a cutoff of 5, there was no difference in CD4/CD8 ratios in the three MF stages based on a Fisher's test. Four of the 18 patients progressed to tumor stage; all of them had an initial CD4/CD8 value lower than 5. When patients were stratified by the CD4/CD8 ratio at the time of MF diagnosis or the earliest time after diagnosis, no significant difference in Kaplan-Meier overall survival was overserved between the two groups (P-value=0.4). To conclude, a high CD4/CD8 ratio did not correlate with poorer outcome in MF. The CD4/CD8 ratio did not correlate with the disease stage. The clinical significance of a high CD4/CD8 ratio needs further investigation, but our study is limited by a small cohort.

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Calcipotriene 0.005%/betamethasone dipropionate 0.064% foam as a treatment for nail psoriasis: A case series

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Combination topical corticosteroids and vitamin D analog treatments for nail psoriasis are widely used in cream and ointment vehicles, but patients may prefer a foam vehicle due to its ease of application and favorable cosmetic appearance. Calcipotriene 0.005%/betamethasone dipropionate 0.064% foam (Cal/BD) is an FDA approved therapy for plaque psoriasis, but may also be an effective treatment for nail psoriasis in a novel aerosol foam. We assessed the clinical response of mild to moderate nail psoriasis to treatment with Cal/BD in a case series of three patients in a single-center, secondary care clinic. Patients applied Cal/BD 1-2 times daily to affected nails for at least 4 months. All 3 patients (1 male and 2 female patients; mean age, 49.7 years [range, 42-60 years]) responded positively to treatment with Cal/BD. Remarkable reduction of nail plate surface abnormalities and a decrease in inflammation of the nail folds were assessed with clinical evaluation and dermoscopy, and documented with serial photography. The treatment was well tolerated and no adverse effects were noted for any of the patients. While further research on the efficacy and safety of Cal/BD as a treatment for nail psoriasis is needed, this case series suggests its potential as a combination topical vitamin D analogue and high potency steroid in a foam vehicle.

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Increased risk of hospital acquired sacral pressure injuries in COVID-19 patients

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Background: We aimed to compare risk of hospital-acquired sacral pressure injuries (HASPI) in COVID-19+ and COVID-19- patients. Method: Single-institution, multi-hospital, retrospective cohort review of all hospitalizations from March 1st, 2020 to September 1st, 2020. Patients with new-onset HASPI (stage II or greater) were included in our study. Patients with chronic history of sacral ulcerations or patients with ulceration present on admission were excluded. Patient demographics, baseline ulceration risk (based on Braden risk assessment), HASPI characteristics, laboratory parameters, and ulcer-associated morbidity were collected. Results: During our study period, 36 of 59,208 COVID-19- and 13 of 3,488 COVID-19+ hospitalized patients developed a HASPI. COVID-19+ patients had a 5.5x higher relative risk of developing a HASPI compared to COVID-19- patients (46.5 per 100,000 hospitalization days versus 8.4 per 100,000 hospitalization days, 95% CI 3.3-11.5, p<0.0001). Of patients that developed a HASPI: median age, gender distribution, baseline ulceration risk, nursing skin checks per day, and time from admission to HASPI were similar between COVID-19+ and COVID-19- patients. COVID-19+ patients had larger (median ulcer size 85 cm^2 vs. 7.5 cm^2, p=0.04) and more severe (46.2% Stage 4/Unstageable vs. 19.4%, p=0.03) HASPIs compared to COVID-19- patients. All COVID-19+ patients with HASPI had elevated D-dimer concentrations, with a median peak D-dimer of 6,755 ng/mL that occurred on average 3.5 days before ulcer formation. HASPI led to severe morbidity in 6 of 11 COVID-19+ patients who survived initial hospitalization , including need for debridement or surgery (n=5) and ulcer infection/sepsis (n=5). Conclusions: Hospitalized COVID-19+ patients are at increased risk for developing large and severe HASPI. The etiology of increased HASPI risk is unclear, but may due to poor tissue perfusion secondary to microvasculature occlusion, decreased staffing, and inability to appropriately position hemodynamically unstable patients.

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The study design of two trials of dupilumab in patients with prurigo nodularis inadequately controlled with topical therapies: LIBERTY PN PRIME and PRIME 2

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Multiple case series suggest dupilumab should be studied further in patients with prurigo nodularis (PN). We describe the study design of two phase 3 trials to assess if dupilumab can improve itch and resolve PN lesions. PRIME (NCT04183335) and PRIME2 (NCT04202679) are 2 double-blind, placebo-controlled, multicenter, parallel-group studies consisting of 2−4 weeks screening, 24 weeks randomized treatment with dupilumab or placebo, and 12 weeks follow-up. Low-/medium-potency topical corticosteroids (TCS)/topical calcineurin inhibitors are permitted. Patients are included if they are adults with PN defined by: dermatologist diagnosis ≥ 3 months before screening; 7-day average Worst Itch Numerical Rating Scale (WI-NRS) score ≥ 7 (scale 0−10) prior to baseline (BL); ≥ 20 bilaterally symmetrical PN lesions on ≥ 2 body surface areas; history of failing 2 weeks medium-to-superpotent TCS, or when TCS not medically advisable. Main exclusion criteria include skin comorbidities interfering with PN assessment; PN secondary to medications or to neuropathy/psychiatric disease. The primary endpoint is reduction in WI-NRS score by ≥ 4 from BL to Week 12; key secondary endpoints are reduction in WI-NRS score by ≥ 4 from BL to Week 24 and Investigator's Global Assessment (IGA) score 0 or 1 for PN-Stage (PN-S) at Week 24. Other secondary endpoints include: time to reduction in WI-NRS score at time points as early as Week 2; proportion of responders who reach IGA PN-S at time points as early as Week 4; and change from BL in Dermatology Life Quality Index at Weeks 12 and 24.

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Topological surface mapping with computer vision to measure cutaneous tissue deformation from digital images

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The risks of recurrence and postoperative complications in Mohs micrographic surgery (MMS) increase with increasing lesion size. Clinical errors may be introduced by biomechanical forces that deform tissue during routine MMS manipulations. The purpose of this study is to empirically determine tissue deformation using only before and after digital images and computer vision. We introduce a correlation algorithm that tracks features on tissue before and after strain for quantitation of biomechanical stress. Multichromatic acrylic microdots were painted onto porcine skin and tracked before and after hypodermal tissue bending (n=10) and epidermal flap reconstruction simulations (n=6). Painting resulted in irregularly shaped microdots. Two-dimensional microdot center coordinates were estimated by the correlation algorithm from digital images and compared to a consensus of two expert-raters using two-tailed Welch's t-tests. The correlation algorithm detected 83% of microdots overall. Detection of microdots on epidermal flaps was higher before reconstruction than after, though not significantly (91% vs 84%, p=0.16). Detection of microdots was higher on the epidermis than hypodermis (88% vs 80%, p=0.01). The correlation algorithm detected microdot coordinates within an average error of 11 pixels overall. Accuracy was better on the epidermis than on the hypodermis (6 vs 15 px, p<0.001). This correlation algorithm is an important step towards practically measuring biomechanical forces in the clinic using only digital images of irregular microdot fiducials. It has been optimized for specificity over sensitivity, with sufficient pixel accuracy to estimate deformation in exchange for a modest loss of resolution. Improving these techniques and introducing additional data such as three-dimensional point clouds will expand the applications of optical mapping in clinical research.