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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The risk of Mohs surgery complications in patients with pre-operative opioid use

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Previous research has shown that opioid use may delay wound healing by disrupting myofibroblast and immune cell recruitment. As the opioid crisis continues to grow and impact the USA, little is known about the risk of complications after Mohs Micrographic Surgery (MMS) in patients with a history of opioid use. A retrospective cohort study was done using TriNetX, a federated real time database of 61 million patient records from 2006-2020 nationally. Cohorts were stratified by opioid use and no opioid use within one year preceding MMS. CPT and ICD-10 codes were determined a priori to identify MMS and complications of interest. A 1:1 matched propensity score analysis was conducted, adjusting for comorbidities and demographics, to calculate adjusted Relative Risks (aRR) with 95% confidence intervals. A matched cohort of 52,243 patients revealed that while the overall complication rates are low, opioid use is associated with a significantly higher risk for developing 15 post- operative complications in 30 day follow up. These include cellulitis/lymphangitis (aRR [95% CI])= (1.98[1.58-2.49]), any cutaneous infections (1.47[1.30-1.67]), hypertrophic scars (1.62[1.19-2.20]), hematomas (1.88[1.15-3.09]), wound dehiscence (2.29[1.77-2.94]), hemorrhage (1.66[1.23-2.25]), pruritus (2.00[1.28-3.14], muscle weakness (2.37[1.39-4.06]), anesthesia of skin (1.79[1.17-2.73]), paresthesia of skin (1.55[1.00-2.41]), gangrene (2.31[1.10- 4.84]), skin graft complications (3.00[1.74-5.20]), rash (2.55[1.77-3.69]), localized swelling (2.46 [1.83-3.29]), and pigmentation changes (1.82[1.37-2.42]). Patients with prior opioid use have a significantly higher risk of developing post- operative complications after MMS. Greater care should be taken in patients with opioid history use to mitigate negative outcomes.

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Trends in dermatological prescribing patterns during the COVID pandemic

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This investigation aimed to assess the pandemic impact on the incidence of newly prescribed dermatological agents compared to the pre-pandemic period. TrinetX is a real-time, federated healthcare database that was used in the retrospective review comprised of 61 million patient records at the time of the analysis. This database was used to identify the incidence of newly prescribed drugs each month for two periods of the pandemic. Medications were categorized by LOINC codes and categorized into groups. The first period was from April-July 2020, and the second was from August-November 2020. The mean for each drug group was then compared with the pooled monthly incidence from similar periods between 2018-2019 before the pandemic. Descriptive analyses were performed, and comparisons were made using a student's t-test. 11 groups of dermatological agents were analyzed in both periods. In the early pandemic period, 7 of 11 groups of agents showed a statistically significant reduction of up to 32.1% in prescription. These agents included anti-psoriatic, anti-acne, topical anti-neoplastic, topical anti-viral, topical anti-inflammatory, topical anti-fungal, and all dermatological agents as a whole. Newly prescribed topical analgesics, keratolytic, anti-perspirant, and anti-bacterial agents did not show a statistically significant decrease in prescription. During the later pandemic, five of the dermatological agents showed a statistically significant decrease in prescription. Anti-psoriatic, topical analgesics, topical antineoplastics, topical keratolytic, topical anti-perspirant, and topical anti-bacterial agents did not show a significant reduction. This study shows that there has been a significant reduction in incidence of prescribed dermatological agents during the COVID19 pandemic. Further research is needed to determine the future impact of this disruption in the dermatological care.

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Risks of COVID-19 infection and mortality for patients on biologics

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During the ongoing coronavirus disease 2019 (COVID-19) crisis, data on risks of immunomodulatory biologics have been limited, causing uncertainty for patients and providers whether to continue biologic therapy for chronic skin disease. We aimed to investigate if patients treated with biologics were at an increased risk for COVID-19 infection and all-cause mortality once infected. We performed a retrospective study of 7,361 patients prescribed biologics and 74,910 matched controls, cross-referenced with the Massachusetts Department of Public Health COVID-19 infection and all-cause mortality data through June 19, 2020. We included patients in the Mass General Brigham system with at least 1 prescription for a biologic between July 1, 2019 and February 29, 2020. Multivariable logistic regression was used on matched data to calculate the odds ratio (OR) for COVID-19 infection between patients on biologics and controls, adjusting for age, gender, race, Charlson Comorbidity Index (CCI) severity grade, median income, and local infection rate. Multivariate Poisson regression was performed on COVID-19 positive patients to compare all-cause mortality, adjusting for gender, CCI severity, income, and local COVID-19 rate. 7,361 patients treated with biologics and 74,910 matched controls were included in the analysis (mean age, 50.6 years; 56.0% women, 84.5% white; mean age adjusted CCI 2.8). There were 87 (1.2%) infections and 7 deaths (8.0%) in patients treated with biologics and 1063 (1.4%) infections and 71 deaths (6.7%) in the control group. Patients treated with immunosuppressive biologics were not at increased risk of COVID-19 diagnosis (OR 0.88, 95% CI 0.71-1.09, p=0.25) or subsequent mortality (OR 1.38, 95% CI 0.62-3.07, p=0.43). Given an absence of evidence that patients treated with biologics are more susceptible to COVID-19, patients should be encouraged to continue their therapy to prevent disease progression during this pandemic.

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Estimating patient demand for Mohs surgery in the United States using Google search trends

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Mohs surgeons (MS) who undergo an American College of Mohs Surgery (ACMS) accredited fellowship have intensive training needed to handle the complexities of skin cancer care. As the incidence of skin cancer rises yearly in the USA, these patients may use search engines to seek potential physicians that can help with their needs. However, this public demand for well-trained MS is currently not known. Google Trends was queried from 2004-2019 to find the average relative search volume (RSV) for the topic "Mohs Surgery" for each state. The number of unique ACMS trained Mohs Surgeons by primary mailing address was acquired and then divided by the 2019 Census Bureau population estimates to find the concentration of MS per capita values. The RSV values were then divided by the per capita values to estimate the demand index of MS for each state. The demand index was highest in Delaware (7887), Mississippi (2797), and West Virginia (2329) and lowest in Washington (914), South Dakota (897), and DC (511). The greatest MS concentration per 10,000 people was in DC (0.11), Vermont (0.08), and Colorado (0.079) and lowest in Indiana (0.03), Mississippi (0.02), and Delaware (0.01). The highest search volumes were in New Hampshire (100), Rhode Island (96), and Florida (95) and the lowest volumes were in Kansas (50), Mississippi (47), and Alaska (42). Alaska was the only state without any registered ACMS Mohs surgeon. The findings highlight which markets may be saturated and which may have a significant unmet need for ACMS trained Mohs surgeons.

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Clinical outcomes in COVID-19 patients with dermatopolymyositis

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Dermatopolymyositis (DPM) is chronic inflammatory disorder that not only affects the skin and muscles but is also associated with malignancies and other disorders. There is currently scant literature on the outcomes of COVID19 patients with DPM and aim was to examine investigate the impact of AD on COVID complications. A retrospective cohort study was done using TriNetX, a national federated real time database of 63 million records. COVID patient cohorts were identified by validated ICD-10 and serology codes per CDC guidelines. An 1:1 matched propensity score analysis was conducted, adjusting for comorbidities and demographics, to calculate adjusted Risk Ratios (aRR) with 95% confidence intervals (CI). 45-day COVID complications were examined with severe COVID being defined as a composite of mortality and ventilation. Subgroup analyses were also performed for Dermatopolymyositis patients on systemic immunosuppressants. In a matched sample of 177 patients in each cohort, there was no statistically significant difference between DPM-COVID patients and non-DPM COVID patients in any of the outcomes examined such as hospitalization (0.97 [0.63-1.49]), acute respiratory distress syndrome (1.01[0.42-2.34]), sepsis (1.1[0.48-2.52]), mechanical ventilation (1.01[0.43-2.34]), mortality (1.2[0.53-2.71]), and severe COVID (1.5 [0.69-3.25]). Subgroup analysis also revealed that DPM-COVID patients with a one-year history of immunosuppressant use had no significant difference in any of the listed outcomes compared to DPM-COVID patients without history of immunosuppressants. DPM patients who contract COVID are not at higher risk for more severe COVID outcomes compared to COVID patients without DPM. Systemic immunosuppressants in DPM-COVID patients also did not lead higher risk for COVID complications compared to DPM-COVID patients without a history of systemic immunosuppressants. Continuing research on the long term impacts of COVID on DPM patients is needed.

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Impact and associations of atopic dermatitis out-of-pocket healthcare expenses in the United States

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Atopic dermatitis (AD) is associated with substantial financial cost including increased out-of-pocket (OOP) expenses. However, associations and impact of OOP cost on household finances are not well understood. To characterize the impact and associations of elevated OOP healthcare expenses for AD management, a 25-question voluntary online survey was administered to National Eczema Association members (n=113,502). Inclusion criteria (U.S. residents age ≥18 years who either self-reportedly had AD or were primary caregivers of individuals with AD) was met by 77.3% (1,118/1,447) of respondents. Respondents with monthly OOP expenses for co-pays and/or deductibles for AD-related HCP office visits >$200 were more likely to have increased AD severity, poor disease control, increased flares, number of healthcare provider (HCP) office visits, prescription polypharmacy, use of step-up therapy, comorbid food allergy, and frequent skin infections (P<0.005 for all). Respondents with total OOP yearly expenditures >$1,000 had similar associations and additionally increased rates of comorbid asthma, allergic rhinitis, anxiety and/or depression (P<0.005 for all). Approximately two-thirds (n=624, 64.6%) reported a moderate, significant, or devastating impact of OOP expenses on household finances. Predictors of harmful financial impact included severe AD (adjusted odds ratio [95% confidence interval]: 2.62 [1.11-6.19], P=0.04), comorbid asthma (1.42 [1.07-1.87], P=0.03), ≥5 HCP visits in the past year (2.80 [1.62-4.82], P=0.0007), >$200 OOP monthly expenditures (2.16 [1.45-3.22], 0.0006), and ≥$1,000 annual expenditures for AD (4.56 [3.31-6.27], P<0.0001). OOP healthcare expenses for AD significantly impact household finances. Clinical interventions are needed to minimize OOP expenses for AD patients while striving for optimal care outcomes.