Adoption of Human Papilloma Virus Vaccination Among Dermatologic Surgeons: A Survey Study

Dermatologic surgeons are frequently exposed to surgical smoke, which has been shown to contain the human papillomavirus (HPV). The evidence for transmission of HPV through surgical smoke is limited but several reports have raised concern regarding the potential for HPV-related complications associated with via the surgical plume. Some expert guidelines have suggested vaccination based on occupational exposure and risk. The adoption of and attitudes towards the HPV vaccine among dermatologic surgeons are unknown, and this study was designed to investigate this topic. An electronic survey was distributed to members of the American College of Mohs Surgery (ACMS). Participants completed a 12 question inventory describing their demographics, risk factors for surgical plume inhalation, safety precautions during surgery, HPV vaccination status, attitudes towards HPV risk and vaccination, and plans regarding possible vaccination if not already inoculated. A total of 147 respondents completed the electronic survey. We found that a majority (55.1%) of respondents had not been vaccinated. Most members (79.6%) believe that HPV can be transmitted via the surgical plume. Despite this finding, use of smoke evacuators was uncommon in our cohort with few surgeons (24.5%) reporting always or usually using smoke evacuator systems. The majority of respondents (59.9%) did not consider themselves to be at high risk of contracting an HPV-related disease due to occupational exposure. Only a minority of unvaccinated surgeons (40.7%) reports plans to become vaccinated in the future. Among unvaccinated respondents, an overwhelming majority (88.9%) would be more likely to become vaccinated if further evidence emerged of human transmission of HPV via the surgical plume. Efforts should be directed towards informing surgeons of the potential risks associated with HPV exposure in the clinical setting and the possible benefit of HPV vaccination.

References:

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It is important to characterize the impact of COVID-19 on patients with autoimmune dermatologic conditions, such as alopecia areata (AA). We investigated rates of COVID-19 infection, hospitalization, and mortality among AA patients using the University of California COVID Research Data Set (UC CORDS); a HIPAA-limited dataset of health records for patients with COVID-19 testing across five UC medical institutions (n= 447,476) from March 2020 to February 2021. A total of 1163 AA patients were tested for COVID-19, with 88 (7.6%) testing positive’ a similar rate to non-AA patients. Few patients with AA had COVID-19 hospitalizations (n=7, 8.0%), also not different from non-AA patients. Hispanic AA patients had a significantly higher rate of infection compared to non-Hispanic AA patients (12.5% vs 6.0% p = 0.0007). Analysis of racial
impact on infection and hospitalization rates did not demonstrate any differences between races among patients with AA. Infection rates between AA patients with and without high-risk comorbidities (hypertension, diabetes, obesity, asthma) were comparable, however patients with hypertension had higher rates of hospitalization (21.1% vs 4.35%, p = 0.0366). There were no deaths among AA patients within one month of positive COVID-19 testing. Our results indicate that AA patients display similar outcomes compared to non-AA patients, and were not inherently at increased risk of COVID-19 infection or hospitalization during the past year of the pandemic. While we noted increased infection rates in Hispanic AA patients and increased hospitalization rates in AA patients with hypertension, these same disparities were similarly noted in non-AA patients. Future studies with identifiable databases may help assess this relationship further.

References:

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Bimekizumab response maintenance through two years of treatment in patients with moderate to severe plaque psoriasis who responded after 16 weeks: Interim results from the BE BRIGHT open-label extension trial

Background: Plaque psoriasis is a chronic disease; it is important to understand long-term treatment efficacy.

Methods: Patients who completed one of three phase 3 studies could enroll in the BE BRIGHT (NCT03598790) two-year open-label extension (OLE).1–3 These analyses include patients randomized to bimekizumab (BKZ) 320mg every 4 wks (Q4W) who responded at Wk16 of the feeder study, received BKZ 320mg Q4W or every 8 wks (Q8W) maintenance dosing from Wk16, and enrolled in BE BRIGHT.

We report maintenance of IGA0/1, BSA≤1% and PASI100 (complete skin clearance) through two years of treatment (OLE Wk48) among Wk16 responders who received continuous BKZ maintenance dosing in the OLE (Q4W/Q4W/Q4W or Q4W/Q8W/Q8W). Missing data were imputed using modified non-responder imputation (mNRI); patients with missing data following treatment discontinuation due to lack of efficacy were considered non responders; multiple imputation methodology was used for other missing data. Wk16 responder rates are included for context (NRI).

Results: 989 patients were initially randomized to BKZ Q4W; at Wk16, 87.5% achieved IGA0/1; 74.9% achieved BSA≤1%; 62.7% achieved PASI100 (NRI). Among Wk16 IGA0/1 responders, 93.9% (Q4W/Q4W/Q4W; N=384) and 97.8% (Q4W/Q8W/Q8W; N=185) maintained IGA0/1 to OLE Wk48. Among Wk16 BSA≤1% responders, 90.7% (Q4W/Q4W/Q4W; N=330) and 92.5% (Q4W/Q8W/Q8W; N=172) maintained BSA≤1% to OLE Wk48. Among Wk16 PASI100 responders, 83.7% (Q4W/Q4W/Q4W; N=275) and 86.3% (Q4W/Q8W/Q8W; N=147) maintained PASI100 to OLE Wk48.

References:
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**Immunophenotypic Profile Of The Macrophagic Infiltrate In Juvenile Xantogranulomas**

Juvenile xanthogranuloma (JXG) is the most common form of non-Langerhans cells histiocytosis (NLCH). It is assumed that it develops from unknown stimuli (infectious or physical), which provoke a granulomatous histiocytic reaction. Histologically, it is characterized by a dense dermal infiltrate of mononucleated macrophages, giant cells, Touton cells, lymphocytes, eosinophils, neutrophils and mast cells, in different proportions.

Most NLCHs have the same precursor cell, express Factor XIIa, and also CD68 and CD163 (M2 macrophages). In this retrospective study of paraffin sections, we sought to characterize the immunophenotypic profile of several M2 macrophage subtypes in isolated cutaneous JXG.

Clinical findings were obtained from the medical records (2007-2017) of 25 patients, predominantly male, between 3 months- 63 years. Most lesions developed in the axial region. CD68, CD204, CD163, MAC387 and HAM56 antibodies were used. Histological images were analyzed by the ImageJ® software. At least 1000 cells were included, and the results tested by SAS 9.0®.

Macrophages were distributed throughout the dermis and were seen firmly attached to the epidermis, except for the regressive lesions. A relationship was found between the density of MAC387+ and HAM56+ cells with younger lesions and between either the density of CD163+ and CD204+ and larger lesions.

M2 macrophages act in the repair phase of the lesions. This seems to be their role in the pathogenesis of JXG, and the epidermis appears to participate actively in the process. Immunohistochemistry can help to define the diagnosis in cases of JXG with atypical morphology.

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**Dupilumab Improves Family Quality of Life in Children Aged 6–11 Years With Severe Atopic Dermatitis (LIBERTY AD PEDS)**

**Objective:** To assess the effect of treatment with dupilumab on the quality of life (QoL) of the pediatric patient’s caregiver(s)/family.

**Methods:** In LIBERTY AD PEDS (NCT03345914), 367 patients with severe AD aged ≥6 to <12 years received subcutaneous dupilumab every 2 weeks (q2w; 100mg if baseline weight <30kg, 200mg if ≥30kg); every 4 weeks (q4w, 300mg); or placebo; for 16 weeks. Patients received concomitant medium-potency topical corticosteroids (TCS). Only data for FDA-approved dose regimens are shown. The Dermatitis Family Impact (DFI) questionnaire is a disease-specific measure assessing the impact of AD on QoL of the caregiver(s)/family of AD-affected children.
Results: At baseline, mean total DFI scores reported by caregiver(s)/family in patients weighing <30kg for dupilumab 300mg q4w+TCS/placebo+TCS groups were 17.7/16.1. In patients weighing ≥30kg, the scores for dupilumab 200mg q2w+TCS/placebo+TCS groups were 13.5/14.0. Baseline DFI scores showed a significant impact of AD on QoL of the patient’s caregiver(s)/family. At Week 16, DFI scores were significantly improved in patients receiving dupilumab+TCS vs patients receiving placebo+TCS. In patients <30kg, least squares (LS) mean percent change (SE) in DFI scores for dupilumab 300mg q4w+TCS/placebo+TCS groups were −73.4(5.6)/−38.7(6.8) (P <0.0001 vs placebo). In patients ≥30kg, LS mean percent change (SE) in DFI scores for dupilumab 200mg q2w+TCS/placebo+TCS groups were −75.4(5.0)/−40.6(5.9) (P <0.0001 vs placebo). The safety profile was consistent with the known dupilumab safety profile in adults and adolescents.

Conclusion: Dupilumab treatment in children aged ≥6 to <12 years with severe AD resulted in significant improvement in QoL of the patient’s caregiver(s) and family.

References:
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Dupilumab-associated psoriasis and psoriasiform dermatitis in patients with atopic dermatitis

Background: Dupilumab, an interleukin-4 and interleukin-13 monoclonal antibody, regulates Th2 pathways and is approved for the treatment of asthma, atopic dermatitis (AD), and chronic rhinosinusitis. Rare reports of de novo psoriasis, with a predilection for the plaque variant (71%), have emerged following dupilumab treatment for AD.

Objective: Identify new onset psoriasis in patients at a tertiary care center who received dupilumab therapy for AD.

Methods: A retrospective cohort study reviewed electronic medical records between 2017-2020 with “dupilumab” use and a diagnosis of “psoriasis” (international classification of diseases code L40.*). Patient demographics, histopathology, and clinical course were extracted.

Results: In total, 218 patients received dupilumab. Psoriasis developed in 14 patients (6.4%) treated for AD (71%) and dermatitis not otherwise specified (DNOS, 29%). 64% had histologic confirmation of AD/DNOS. Patients used dupilumab for an average of 9.9 months (range 0.5 – 30), with an average of 5.9 months to psoriasis onset. Psoriasis variants included: vulgaris (n=8), psoriasiform dermatitis (n=2), pustular (n=1), erythrodermic (n=1), guttate (n=1), and palmoplantar (n=1). Only 36% had histologic confirmation of psoriasis. For treatment, 50% discontinued dupilumab and 86% required additional therapy, including topical steroids (64%), cyclosporine (43%), biologics (36%), phototherapy (29%), methotrexate (29%), and/or systemic steroids (21%). One patient treated for DNOS (male, 79 years of age, 5 months on dupilumab) eventually developed mycosis fungoides.

Conclusion: We confirms reports of psoriasis following dupilumab, which may be de novo or prior undiagnosed psoriasis. The mechanism of dupilumab may inadvertently activate the Th1 and Th17 pathways implicated in psoriasis pathogenesis.

References:
Development of cutaneous T-cell lymphoma following biologic treatment: A retrospective analysis

Although a potential association has been described regarding the development of lymphoma following biologic therapy, there remains a paucity of data regarding the development of cutaneous T-cell lymphoma (CTCL) following biologic treatment.

This retrospective study describes our institutional experience with CTCL diagnosed following treatment with a biologic agent. Patients administered biologic therapy between 2009-2019 for dermatologic, rheumatologic and/or gastrointestinal indications who subsequently developed CTCL were identified. Eleven of fifty-five patients who received a total of nine biologic agents, predating a diagnosis of CTCL were included. Diagnoses for which biologic therapy was prescribed included psoriasis (54.5%), Crohn’s disease (18.2%), atopic dermatitis (18.2%) and hidradenitis suppurativa (9.0%). Etanercept and infliximab were implicated in 27.2% (3/11) of cases. Dupilumab, ustekinumab and adalimumab were used in 18.1% (2/11) of cases. The mean age of onset was 65 years (range 44-82). Eight patients (72.7%) were male, 2 female (18.2%) and 1 non-binary (9%). Nine (81.8%) were White, 1 (9%) African American and 1 (9%) White, Latino. Six patients (54.5%) were diagnosed with mycosis fungoides, three (27.2%) Sezary syndrome, one (9.0%) primary cutaneous peripheral T-cell lymphoma, not otherwise specified (NOS) and one patient developed T-cell lymphoma, NOS. The average time from initiation of biologic therapy to the diagnosis of CTCL was 3 years. Two patients died within eighteen months of CTCL diagnosis, and the average follow up was 16 months.

In conclusion, CTCL may develop after initiation of biologic therapy. However, the role that biologic therapy contributes to the development or evolution of CTCL remains unclear.

References:
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Methods: In this parallel group, double-blinded study, 331 psoriasis subjects (2-20% BSA) were randomized 1:1:1 to ARQ-151 cream 0.3%, 0.15%, or vehicle applied once-daily for 12 weeks. Efficacy measures included IGA, intertriginous IGA, PASI, worst itch NRS (WI-NRS), and Psoriasis Symptom Diary (PSD). Safety assessments included adverse events (AEs), clinical laboratories, electrocardiograms, and local tolerability.

Results: Both ARQ-151 doses achieved the primary efficacy endpoint – IGA ‘clear’/’almost clear’ at Week 6 (p</=0.004 vs. vehicle). At Week 8, IGA success (‘clear’/’almost clear’ plus 2-grade improvement) was observed for ARQ-151 0.3% and 0.15% in 32.2% and 24.5% of subjects, respectively (p</=0.005 vs. 9.8% vehicle rate). Among subjects with intertriginous involvement, intertriginous IGA success (‘clear’/’almost clear’ plus 2-grade improvement) was 87.1% in ARQ-151 0.3% subjects at Week 8 (p=0.007 vs. 36.1% vehicle rate). By Week 2, ARQ-151 0.3% had statistically greater improvements vs. vehicle on PASI, WI-NRS and multiple PSD items. Week 8 PASI-75 and PASI-90 rates for ARQ-151 0.3% were 31.2% and 16.5%, respectively (p</=0.015 vs. vehicle rates of 12.8% and 5.5%). Treatment-emergent AEs (TEAEs) were mostly mild or moderate with no clinically significant differences across groups. Application site, gastrointestinal, and psychiatric TEAEs were uncommon. One of 219 subjects on ARQ-151 discontinued due to an AE.

Conclusion: ARQ-151, investigational once-daily roflumilast cream, was well-tolerated and achieved early and significant improvements in psoriasis signs and symptoms, including in intertriginous areas.

References:

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31-gene expression profiling combined with clinicopathologic features improves prognostication of recurrence and metastasis in patients with stage I-III cutaneous melanoma

Introduction: Patients with cutaneous melanoma (CM) are staged according to the American Joint Committee on Cancer (AJCC) criteria and receive melanoma-specific survival (MSS) estimates based on average cohort risk rather than personalized risk. Further, AJCC does not provide recurrence-free (RFS) or distant metastasis-free survival (DMFS) prognoses. The validated 31-gene expression profile (31-GEP) adds independent prognostic value to current staging criteria.

Methods: An algorithm was developed (n = 1581) and validated (n = 523) using Cox regression on patients with stage I-III CM from multiple centers in the United States and Spain. Parameter selection was determined using 10x4-fold cross-validation. The final integrated algorithm (i31-GEP) combined the continuous 31-GEP score, Breslow thickness, ulceration,
mitotic rate, sentinel lymph node status (SLN), tumor location, and age. The i31-GEP was compared to AJCC 8th edition using the net reclassification index (NRI).

Results: The 31-GEP score was an independent, significant predictor for RFS (HR: 6.20; \( p < 0.001 \)), DMFS (HR: 5.66; \( p = 0.001 \)), and MSS (HR: 14.54; \( p = 0.003 \)), as were Breslow thickness, tumor location (head and neck), and a positive SLN. Kaplan-Meier analysis showed i31-GEP predicted survival outcomes that aligned with observed outcomes, suggesting a well-calibrated algorithm. Compared to AJCC 8th edition, the i31-GEP significantly improved adverse event prediction for 5-year RFS (NRI: 0.33; \( p = 0.006 \)), DMFS (NRI: 0.53; \( p < 0.001 \)), and MSS (NRI: 0.97; \( p < 0.001 \)).

Conclusion: While the 31-GEP maintained independent value for survival prognostication, integrating the 31-GEP score with clinicopathologic features (i31-GEP) can help personalize patient management and risk prediction beyond standard melanoma staging.

References:
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Risk assessment by the 40-gene expression profile (40-GEP) test further stratifies risk of metastasis in a subset of high-risk cutaneous squamous cell carcinoma (cSCC) patients meeting T1 staging criteria

The development of metastasis has a profound impact on cSCC patient survival. Due to the rising incidence of this disease, its mortality rate is similar to melanoma. The 40-GEP test uses primary tissue from cSCC tumors to classify a patient’s risk for regional and/or distant metastasis (Class 1-low risk; Class 2A-moderate risk; Class 2B-high risk). Previous validation of the test in a high-risk cSCC cohort (\( n = 420 \), all high-risk or very high-risk by NCCN v1.2021) demonstrated independent prognostic value when the result was incorporated into existing risk assessment methods. Using this validation cohort, we determine whether the 40-GEP can identify biologically risky tumors within a subset of NCCN high-risk tumors comprehensively staged as T1 by either Brigham and Women’s Hospital (BWH) or American Joint Committee on Cancer 8th edition (AJCC8) staging (BWH cohort \( n = 200 \) or AJCC8 cohort \( n = 222 \)). Kaplan-Meier analysis demonstrated a statistically significant difference in 3-year metastasis free survival rates between 40-GEP risk groups (BWH, AJCC8; Class 1: 93.9%, 96.6%; Class 2A: 84.9%, 81.4%; Class 2B: 47.8%, 50%; log-likelihood tests \( p < 0.001 \)). Thus, the 40-GEP test identifies patients staged T1 as having metastasis rates similar to BWH T3 and AJCC8 T4. Within these T1 subsets, the 40-GEP classified 79% of metastatic cases as Class 2A or 2B (BWH 15/19, AJCC 22/28) with a negative predictive value for cases with a Class 1 result of >95%. Incorporation of the 40-GEP into cSCC patient risk assessment has the potential to improve patient management and disease related outcomes.

References:
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Deucravacitinib, an Oral, Selective Tyrosine Kinase 2 (TYK2) Inhibitor, Compared With Placebo and Apremilast in Moderate to Severe Plaque Psoriasis: Onset of Action in the Phase 3 POETYK PSO-1 and POETYK PSO-2 Trials

Background: TYK2 mediates signaling of key cytokines in psoriasis pathogenesis. Deucravacitinib selectively inhibits TYK2 and was significantly more efficacious than placebo or apremilast in psoriasis patients.

Methods: POETYK PSO-1 (NCT03624127) and POETYK PSO-2 (NCT03611751) are Phase 3, double-blinded, 52-week trials that randomized moderate to severe plaque psoriasis patients (BSA ≥10%, PASI ≥12, sPGA ≥3) 1:2:1 to placebo, deucravacitinib 6 mg once daily, or apremilast 30 mg twice daily. Adjusted mean change from baseline was used to evaluate onset of action for PASI, BSA, sPGA×BSA, Psoriasis Symptoms and Signs Diary (PSSD) symptom score, and Dermatology Life Quality Index (DLQI) and patients achieving sPGA 0/1 at Weeks 1, 2, 4, 8, 12, 16, 20, and 24.

Results: In total, 666 and 1020 patients were randomized in PSO-1 and PSO-2, respectively; baseline psoriasis symptoms were similar across groups. Mean changes from baseline in PASI, sPGA×BSA, and DLQI were greater in deucravacitinib patients vs placebo by Week 1 in both trials (p≤0.0252), and BSA (p≤0.0079) and PSSD symptom score (p≤0.0002) were greater by Week 2. A greater proportion of deucravacitinib patients achieved an sPGA 0/1 response vs placebo by Week 4 (p<0.0001) and vs apremilast by Week 8 (p≤0.0018). Deucravacitinib changes from baseline vs apremilast were seen in PSO-1 by Week 4 for PASI, BSA, and sPGAxBSA, and by Week 8 for DLQI 0/1 and by Week 8 for all assessments in PSO-2.

Conclusion: POETYK PSO-1 and PSO-2 demonstrated the rapid onset of action of deucravacitinib for improving both objective and patient-reported efficacy outcomes.

References:
NA

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Carle Paul, MD, PhD; AbbVie - Consultant (Fees); Almirall - Consultant (Fees); Amgen - Consultant (Fees); Boehringer Ingelheim - Consultant (Fees); Celgene - Consultant (Fees); Eli Lilly - Consultant (Fees); GSK - Consultant (Fees); Janssen Cilag - Consultant (Fees); LEO Pharma - Consultant (Fees); Novartis - Consultant (Fees); Pfizer - Consultant (Fees); Pierre Fabre - Consultant (Fees); Sanofi-Regeneron - Consultant (Fees); UCB Pharma - Consultant (Fees)
Carolina Amorim MD; No financial relationships exist with commercial interests.
Charles W. Lynde, MD; AbbVie, Glenmark, GSK, Pfizer, Regeneron Pharmaceuticals, Inc., Sanofi, Sanofi Genzyme - Consultant (Fees), Investigator (Grants/Research Funding)
Chien-Chia Chuang, PhD; Sanofi Genzyme - Employee (Salary), Stockholder (Stock Options)
Christopher Cioffi, PhD; UCB - Employee (Salary), Employee (Stock), Employee (Stock Options)
Cristina Nguyen, MD, MSBS, MHA; No financial relationships exist with commercial interests.

D
Daniel Condie, MD; No financial relationships exist with commercial interests.
Diamant Thaći, MD; AbbVie - Advisory Board (Honoraria), Investigator (Fees), Speaker/Faculty Education (Honoraria); Almirall - Advisory Board (Honoraria), Speaker/Faculty Education (Honoraria); Beiersdorf, Inc. - Consultant (Honoraria); Boehringer Ingelheim - Advisory Board (Honoraria); Celgene - Advisory Board (Honoraria), Investigator (Fees), Investigator (Grants/Research Funding), Speaker (Honoraria); Eli Lilly and Company - Advisory Board (Honoraria), Investigator (Fees), Speaker (Honoraria); Galapagos NV - Data Safety Monitoring Board (Honoraria); GlaxoSmithKline - Investigator (Fees); Hexal AG, Sandoz Biopharmaceuticals - Advisory Board (Honoraria), Speaker (Honoraria); Janssen-Cilag - Advisory Board (Honoraria), Consultant (Honoraria), Investigator (Fees), Speaker (Honoraria); Leo Pharma Inc - Advisory Board (Honoraria), Investigator (Fees); Medac Pharma, Inc - Speaker (Honoraria); Novartis Pharmaceuticals Corp. - Advisory Board (Honoraria), Investigator (Fees), Investigator (Grants/Research Funding), Speaker/Faculty Education (Honoraria); Parexel - Investigator (Fees); Pfizer Inc. - Advisory Board (Honoraria), Investigator (Fees), Speaker/Faculty Education (Honoraria); Regeneron - Investigator (Fees), Speaker/Faculty Education (Honoraria); Sanofi - Advisory Board (Honoraria), Speaker/Faculty Education (Honoraria); Schering-Plough Corporation - Speaker (Honoraria); UCB - Advisory Board (Honoraria), Investigator (Fees), Speaker/Faculty Education (Honoraria)

E
Elizabeth Colston, MD, PhD; Bristol-Myers Squibb - Employee (Salary), Stockholder (Stock)
Eric L. Simpson, MD; AbbVie - Consultant (Fees), Investigator (Grants/Research Funding); Amgen - Consultant (Fees); Arena Pharmaceuticals - Consultant (Fees); BenevolentAI Bio Limited - Consultant (Fees); BiomX Ltd. - Consultant (Fees); Bluefin Biomedicine - Consultant (Fees); Boehringer Ingelheim - Consultant (Fees); Boston Consulting Group - Consultant (Fees); Collective Acumen LLC - Consultant (Fees); Coronado Biosciences - Consultant (Fees); Demira - Consultant (Fees); Eli Lilly and Company - Consultant (Fees), Investigator (Grants/Research Funding); Evidera - Consultant (Fees); Excerpta Medica B.V. - Consultant (Fees); Forte Biosciences - Consultant (Fees); Galderma Laboratories, LP - Investigator (Grants/Research Funding); Incyte Corporation - Consultant (Fees), Investigator (Grants/Research Funding); Janssen Research & Development, LLC - Consultant (Fees); Kyowa Hakko Kirin Pharma, Inc. - Consultant (Fees), Investigator (Grants/Research Funding); Leo Pharma Inc. - Consultant (Fees), Investigator (Grants/Research Funding); Medscape - Consultant (Fees); Merck - Investigator (Grants/Research Funding); Novartis - Investigator (Grants/Research Funding); Ortho Dermatologics - Consultant (Fees); Pfizer Inc. - Consultant (Fees), Investigator (Grants/Research Funding); Regeneron - Consultant (Fees), Investigator (Grants/Research Funding); Sanofi - Investigator (Grants/Research Funding); Sanofi Genzyme - Consultant (Fees); SPARC Cell - Consultant (Fees); Tioga Pharmaceuticals, Inc. - Investigator (Grants/Research Funding); Vanda Pharmaceuticals Inc. - Investigator (Grants/Research Funding)

F
Fernanda Teixeira MD PhD; No financial relationships exist with commercial interests.
Fiore Casale MMS; No financial relationships exist with commercial interests.

G
Jennifer J. Siegel, PhD; Castle Biosciences - Employee (Salary)

John Throup, BSc, PhD; Bristol-Myers Squibb - Employee (Salary), Stockholder (Stock)

Jonathan Barker, MD; AbbVie - Consultant (Fees); Almirall - Consultant (Fees); Amgen - Consultant (Fees); Anaptyx-Bio - Consultant (Fees); BMS - Consultant (Fees); Boehringer Ingelheim - Consultant (Fees); Celgene - Consultant (Fees); Eli Lilly - Consultant (Fees); LEO Pharma - Consultant (Fees); Merck - Consultant (Fees); Novartis - Consultant (Fees); Pfizer - Consultant (Fees); Samsung - Consultant (Fees); Sienna - Consultant (Fees); Sun Pharma - Consultant (Fees); UCB Pharma - Consultant (Fees)

Jerry Bagel, MD; AbbVie, Amgen, Arcutis, Boehringer Ingelheim, Bristol Myers Squibb, Celgene, CorEvitas, LLC, Dermavant, Dermira/UCB, Eli Lilly, Glenmark, Janssen Biotech, Kadmon, Leo Pharma - Investigator (Grants/Research Funding); AbbVie, Amgen, Celgene, Eli Lilly, Janssen Biotech, Novartis, Sun Pharma, and Valeant - Consultant (Fees); AbbVie, Celgene, Eli Lilly, Janssen Biotech, and Novartis - Speaker (Honoraria); Lycera, Menlo Therapeutics, Novartis, Pfizer, Regeneron, Sun Pharma, Taro, and Valeant, Lycera, Menlo Therapeutics, Novartis, Pfizer, Regeneron, Sun Pharma, Taro, and Valeant - Investigator (Grants/Research Funding)

Kai Zheng PhD; No financial relationships exist with commercial interests.

Katerina Yale, MD; No financial relationships exist with commercial interests.

Kim Papp, MD, PhD; AbbVie - Advisory Board (Honoraria), Consultant (Honoraria), Investigator (Grants/Research Funding), Other (Honoraria), Speaker (Honoraria); Akros Pharma, Inc. - Consultant (Honoraria), Investigator (Grants/Research Funding), Other (Grants/Research Funding); Amgen - Advisory Board (Honoraria), Consultant (Honoraria), Investigator (Grants/Research Funding), Other (Honoraria), Speaker (Honoraria); Anacor Pharmaceuticals, Inc. - Investigator (Grants/Research Funding), Other (Grants/Research Funding); Arcutis, Inc. - Consultant (Grants/Research Funding), Investigator (Grants/Research Funding), Other (Grants/Research Funding); Astellas Pharma Canada, Inc. - Advisory Board (Grants/Research Funding), Consultant (Grants/Research Funding), Investigator (Grants/Research Funding), Speaker (Grants/Research Funding); Avillion - Consultant (Grants/Research Funding), Investigator (Grants/Research Funding); Bausch Health - Advisory Board (Honoraria), Consultant (Honoraria), Investigator (Grants/Research Funding), Other (Honoraria), Speaker (Honoraria); Baxalta Incorporated - Consultant (Grants/Research Funding), Boehringer Ingelheim - Advisory Board (Honoraria), Consultant (Honoraria), Investigator (Grants/Research Funding), Other (Honoraria); Bristol-Myers Squibb - Advisory Board (Honoraria), Consultant (Honoraria), Investigator (Grants/Research Funding), Can-Fite BioPharma, Ltd. - Consultant (Grants/Research Funding), Investigator (Grants/Research Funding), Celgene Corporation - Advisory Board (Honoraria), Consultant (Honoraria), Investigator (Grants/Research Funding), Other (Honoraria), Speaker (Honoraria); Coherus Biosciences - Consultant (Honoraria), Investigator (Grants/Research Funding); Dermavant Sciences - Consultant (Grants/Research Funding), Investigator (Grants/Research Funding), DermaRx - Consultant (Fees); Dow Pharmaceutical Sciences, Inc. - Consultant (Grants/Research Funding), Investigator (Grants/Research Funding); Eli Lilly and Company - Advisory Board (Honoraria), Consultant (Honoraria), Investigator (Grants/Research Funding), Other (Honoraria), Speaker (Honoraria); Evelo Biosciences, Inc. - Consultant (Grants/Research Funding); Galapagos NV - Consultant (Grants/Research Funding); Galderma Canada, Inc - Advisory Board (Honoraria), Consultant (Honoraria), Investigator (Grants/Research Funding), Speaker (Honoraria); Genentech, Inc. - Consultant (Grants/Research Funding), Investigator (Grants/Research Funding), Gilthead Sciences - Investigator (Grants/Research Funding); GlaxoSmithKline - Investigator (Grants/Research Funding), Incyte Corporation - Consultant (Grants/Research Funding), Investigator (Grants/Research Funding), Speaker (Grants/Research Funding); Janssen Pharmaceuticals, Inc - Advisory Board (Honoraria), Consultant (Honoraria), Investigator (Grants/Research Funding), Other (Honoraria), Speaker (Honoraria); Kyowa Hakko Kirin Pharma, Inc. - Consultant (Honoraria), Investigator (Grants/Research Funding), Other (Honoraria), Speaker (Honoraria); Leo Pharma Inc - Consultant (Grants/Research Funding), Investigator (Grants/Research Funding), Speaker (Grants/Research Funding); Medimmune - Investigator (Grants/Research Funding); Meiji Seika Pharma Co., Ltd - Consultant (No Compensation Received); Merck - Advisory Board (Honoraria), Consultant (Honoraria), Investigator (Grants/Research Funding), Other (Honoraria), Speaker (Honoraria); Mitsubishi Pharma - Consultant (Honoraria), Novartis - Advisory Board (Honoraria), Consultant (Honoraria), Investigator (Grants/Research Funding), Other (Honoraria), Speaker (Honoraria); Novartis - Advisory Board (Honoraria), Consultant (Honoraria), Investigator (Grants/Research Funding), Other (Honoraria), Speaker (Honoraria); Pfizer Inc. - Advisory Board (Honoraria), Consultant (Honoraria), Investigator (Grants/Research Funding), Other (Honoraria), Speaker (Honoraria); PRCL Research - Consultant (Honoraria), Investigator (Grants/Research Funding), Other (Honoraria), Speaker (Honoraria); Samsung - Consultant (Honoraria).
(Grants/Research Funding); Regeneron - Advisory Board (Grants/Research Funding), Consultant (Grants/Research Funding), Investigator (Grants/Research Funding), Other (Grants/Research Funding); Roche Laboratories - Consultant (Grants/Research Funding), Investigator (Grants/Research Funding), Sanofi - Advisory Board (Honoraria), Consultant (Honoraria), Investigator (Grants/Research Funding), Other (Honoraria), Speaker (Honoraria); Sun Pharmaceutical Industries Ltd. - Advisory Board (Grants/Research Funding), Investigator (Grants/Research Funding); Takeda Pharmaceuticals USA Inc - Consultant (Honoraria), Investigator (Grants/Research Funding); UCB - Advisory Board (Honoraria), Consultant (Honoraria), Investigator (Grants/Research Funding)

Kyle Covington, PhD; Castle Biosciences Inc - Employee (Stock), Employee (Stock Options); Castle Biosciences, Inc - Employee (Salary)

L

Laura Kasmarek MD; No financial relationships exist with commercial interests.

Lauren Schaefer; No financial relationships exist with commercial interests.

Lawrence F. Eichenfield, MD; AbbVie, Almirall, Arcutis, Arena, Dermavant, Dermira, Eli Lilly, Forté, Galderma, Incyte, Otsuka, Novartis, Pfizer, Regeneron Ortho Dermatologic, Pharmaceuticals, Inc., Sanofi Genzyme - Consultant (Fees); AbbVie, Dermira, Eli Lilly, Galderma, Incyte, Pfizer, Regeneron Pharmaceuticals, Inc., Sanofi Genzyme, Valeant - Investigator (Grants/Research Funding)

Lissa Wegher MD; No financial relationships exist with commercial interests.

M

Mark Lebwohl, MD; AbbVie - Investigator (Grants/Research Funding); Aditum Bio - Consultant (Honoraria); Allergan, Inc. - Consultant (Honoraria); Almirall - Consultant (Honoraria); Altrubio Inc. - Consultant (Honoraria); Amgen - Investigator (Grants/Research Funding); AnaptysBio - Consultant (Honoraria); Arcutis, Inc. - Consultant (Honoraria), Investigator (Grants/Research Funding); Aristea Therapeutics - Consultant (Honoraria); Arrive Technologies - Consultant (Honoraria); Avotres, Inc. - Consultant (Honoraria); BiomX Ltd. - Consultant (Honoraria); BirchBioMed - Consultant (Honoraria); BMD Skincare, Inc. - Consultant (Honoraria); Boehringer Ingelheim - Consultant (Honoraria), Investigator (Grants/Research Funding); Bristol-Myers Squibb - Consultant (Honoraria); Cara Therapeutics - Consultant (Honoraria); Castile Biosciences, Inc - Consultant (Honoraria); Corrona, Inc. - Other (Honoraria); Dermavant Sciences - Consultant (Honoraria); Dr. Reddy - Consultant (Honoraria); Eli Lilly and Company - Investigator (Grants/Research Funding); EMD Serono - Consultant (Honoraria); Evelo Biosciences, Inc. - Consultant (Honoraria); Evolva, Inc. - Consultant (Honoraria); Facilitation of International Dermatology Education - Consultant (Honoraria); Forte Biosciences - Consultant (Honoraria); Foundation for Research & Education of Dermatology - Other (Honoraria); Helsinn Healthcare - Consultant (Honoraria); Hexima Ltd. - Consultant (Honoraria); Incyte Corporation - Investigator (Grants/Research Funding); Inozyme Pharma - Consultant (Honoraria); Janssen Research & Development, LLC - Investigator (Grants/Research Funding); Kyowa Kirin - Consultant (Honoraria); Leo Pharma - Consultant (Honoraria); LEO Pharma, US Investigator (Grants/Research Funding); Meiji Seika Pharma Co., Ltd - Consultant (Honoraria); Menlo Therapeutics - Consultant (Honoraria); Mindera - Consultant (Honoraria); Mitsubishi Pharma - Consultant (Honoraria); Neuroderm LTD - Consultant (Honoraria); Ortho Dermatologics - Investigator (Grants/Research Funding); Pfizer Inc. - Consultant (Honoraria), Investigator (Grants/Research Funding); Regeneron - Investigator (Grants/Research Funding); Regeneron - Investigator (Grants/Research Funding); Seagen - Maritime Holdings Corp. - Consultant (Honoraria); Theravance Biopharma - Consultant (Honoraria); UCB - Investigator (Grants/Research Funding); Verrica Pharmaceuticals Inc - Consultant (Honoraria)

Maggie Wang, MS; UCB Pharma - Employee (Salary), Employee (Stock)

Maria Leticia Cintra MD PhD; No financial relationships exist with commercial interests.

Marina Maciel MD; No financial relationships exist with commercial interests.

Matthew S. Goldberg, MD; Castle Biosciences - Employee (Salary); Castle Biosciences, Inc - Employee (Stock Options), Stockholder (Stock)

N

Nancy Cross, MD; UCB - Employee (Salary); UCB Pharma - Stockholder (Stock)

Natasha Atanaskova Mesinkovska MD, PhD; Concert Pharmaceuticals - Advisory Board (Honoraria); Lilly ICOS LLC - Advisory Board (Honoraria); Nutrafol - Advisory Board (Honoraria)

Neil J. Korman, MD; AbbVie, Amgen, Argenx, Bristol Myers Squibb, Celgene, Chemocentryx, Eli Lilly, Galderma, Kyowa Hakko Kirin, Leo Pharma, Menlo, Principia, Prothena, Rhizen, Syntimmune, Trevi, and Xbiotech - Investigator (Grants/Research Funding); AbbVie, Boehringer Ingelheim, Bristol Myers Squibb, Celgene, Eli Lilly, Janssen Biotech, Leo Pharma, Novartis, Principia, Regeneron, Sanofi-Genzyme, Sun Pharma, UCB - Advisory Board (Fees); AbbVie, Boehringer Ingelheim, Bristol Myers Squibb, Celgene, Eli Lilly, Janssen, Leo Pharma, Novartis, Principia, Regeneron, Sanofi Genzyme, Sun Pharma, and UCB - Advisory Board (Fees); AbbVie, Eli Lilly, Janssen,
Novartis, Regeneron, and Sanofi Genzyme - Speaker (Honoraria); AbbVie, Eli Lilly, Janssen, Novartis, Regeneron, and Sanofi-Genzyme - Speaker (Honoraria)

Nicholas A. Taylor, MD, PhD; No financial relationships exist with commercial interests.

Niki Nourmohammadi MPH; No financial relationships exist with commercial interests.

Nneka Comfere, MD; No financial relationships exist with commercial interests.

Noah A. Levit, MD; Regeneron Pharmaceuticals, Inc. - Employee (Salary), Stockholder (Stock Options)

O

Olayemi Sokumbi, MD; No financial relationships exist with commercial interests.

P

Peter Foley, MD; AbbVie - Advisory Board (Other Financial Benefit), Investigator (Grants/Research Funding), Speaker (Honoraria); AbbVie, Amgen, AstraZeneca, Arcutis, Aslan, Boehringer Ingelheim, Botanix, Bristol Myers Squibb, Celgene, Celtsaxys, CSL, Cutanea, Dermira, Galderma, Genentech, GlaxoSmithKline, Hexima, Janssen, Leo Pharma, Lilly, Merck - Investigator (Grants/Research Funding); AbbVie, Amgen, Boehringer Ingelheim, Bristol Myers Squibb, Celgene, Galderma, GlaxoSmithKline, Janssen, Leo Pharma, Lilly, Merck, Novartis, Pfizer, Sanofi, Sun Pharma, UCB, and Valeant - Advisory Board (Fees); AbbVie, Amgen, Celgene, Janssen, Leo Pharma, Lilly, Merck, Novartis, Pfizer, Sanofi, and Sun Pharma - Investigator (Grants/Research Funding); AbbVie, Celgene, Galderma, GlaxoSmithKline, Janssen, Leo Pharma, Lilly, Merck, Novartis, Pfizer, Roche, and Valeant - Speaker (Honoraria); AbbVie, Galderma, Janssen, Leo Pharma, Lilly, Merck, Novartis, Pfizer, Roche, and Sun Pharma and Sanofi - Other (Grants/Research Funding); Akaal - Investigator (No Compensation Received); Amgen - Advisory Board (Other Financial Benefit), Investigator (Grants/Research Funding), Speaker (Honoraria); Arcutis - Investigator (No Compensation Received); Aslan - Investigator (Other Financial Benefit); AstraZeneca - Investigator (Other Financial Benefit); BMS - Advisory Board (Other Financial Benefit), Consultant (Other Financial Benefit); Bristol Myers Squibb, Galderma, Janssen, Leo Pharma, Lilly, Novartis, Pfizer, Roche, and UCB - Consultant (Fees); Celgene - Advisory Board (Other Financial Benefit), Investigator (Grants/Research Funding), Speaker (Honoraria); Celtsaxys - Investigator (Other Financial Benefit); CSL - Investigator (Other Financial Benefit); Cutanea - Investigator (Other Financial Benefit); Dermira - Investigator (Other Financial Benefit); Eli Lilly - Advisory Board (Other Financial Benefit), Consultant (Grants/Research Funding), Investigator (Grants/Research Funding), Speaker (Honoraria); Genentech - Advisory Board (Other Financial Benefit), Consultant (Other Financial Benefit), Investigator (Other Financial Benefit), Speaker (Honoraria); Genentech - Investigator (Other Financial Benefit); Geneseq - Investigator (Other Financial Benefit); GSK - Advisory Board (Other Financial Benefit), Investigator (Other Financial Benefit), Speaker (Honoraria); Hexima - Investigator (Other Financial Benefit); Janssen - Advisory Board (Other Financial Benefit), Consultant (Grants/Research Funding), Investigator (Grants/Research Funding), Speaker (Honoraria); LEO Pharma - Advisory Board (Other Financial Benefit), Consultant (Grants/Research Funding), Investigator (Other Financial Benefit), Speaker (Honoraria); Mayne Pharma - Advisory Board (Other Financial Benefit), Consultant (Other Financial Benefit); Medimmune - Consultant (Other Financial Benefit), Investigator (Other Financial Benefit); Merck - Advisory Board (Other Financial Benefit), Investigator (Grants/Research Funding), Speaker (Honoraria); Novartis - Advisory Board (Other Financial Benefit), Consultant (Grants/Research Funding), Investigator (Grants/Research Funding), Speaker (Honoraria); Pfizer - Advisory Board (Other Financial Benefit), Consultant (Grants/Research Funding), Investigator (Grants/Research Funding), Speaker (Honoraria); Regeneron - Investigator (Other Financial Benefit); Reistone - Investigator (Other Financial Benefit); Roche - Consultant (Other Financial Benefit), Investigator (Other Financial Benefit), Speaker (Honoraria); Sanofi - Advisory Board (Other Financial Benefit), Consultant (Grants/Research Funding), Investigator (Grants/Research Funding), Speaker (Honoraria); Sanofi Genzyme - Employee (Salary)

Randy Prescilla, MD; Sanofi Genzyme - Employee (Salary)

Richard G. Langley, MD; AbbVie - Advisory Board (Honoraria), Investigator (Grants/Research Funding), Speaker (Honoraria); Amgen - Investigator (Grants/Research Funding), Speaker (Honoraria); Astellas Pharma US, Inc - Investigator (Grants/Research Funding); Boehringer Ingelheim - Advisory Board (Honoraria), Investigator (Grants/Research Funding); Celgene Corporation - Advisory Board (Honoraria); Centocor Ortho Biotech Inc. - Advisory Board (Honoraria), Investigator (Grants/Research Funding); Eli Lilly and Company - Advisory Board (Honoraria), Investigator (Honoraria); Genentech, Inc. - Investigator
Robert Cook, PhD
; Castle Biosciences, Inc - Employee (Salary), Employee (Stock Options)

Ross Pearlman, MD; No financial relationships exist with commercial interests.

Sarah Arron, MD, PhD; Almirall - Consultant (Salary); Castle Biosciences - Investigator (Salary); Enspectra Health - Consultant (Honoria); Galderma USA - Investigator (Salary); Genentech, Inc. - Employee (Stock); Gerson Lehrman Group - Consultant (Honoria); Kiniksa Pharmaceuticals, Ltd. - Investigator (Salary); Pfizer Inc. - Investigator (Salary); Rakuten Aspyrian - Consultant (Honoria)

Sarah J. Kurley, PhD; Castle Biosciences, Inc - Employee (Salary), Stockholder (Stock Options)

Sebastian Podlipnik, MD; No financial relationships exist with commercial interests.

Sherrif F. Ibrahim, MD, PhD; Biofrontera - Investigator (Grants/Research Funding); Castle Biosciences - Investigator (Grants/Research Funding), Speaker (Honoria); Galderma USA - Investigator (Grants/Research Funding), Speaker/Faculty Education (Honoria); Genentech, Inc. - Speaker (Honoria); Regeneron - Advisory Board (Honoria); Regeneron Pharmaceuticals, Inc. - Investigator (Grants/Research Funding); Sciton Inc. - Speaker (Honoria)

Subhashis Banerjee, MD; Bristol-Myers Squibb - Employee (Salary), Stockholder (Stock)

Tao Wang; Bristol-Myers Squibb - Employee (Salary), Stockholder (Stock)

Ulrich Mrowietz, MD; AbbVie - Investigator (Grants/Research Funding); Arista - Investigator (Grants/Research Funding); Boehringer Ingelheim - Investigator (Grants/Research Funding); Celgene - Investigator (Grants/Research Funding); Dr Reddy's Laboratories - Investigator (Grants/Research Funding); Eli Lilly - Investigator (Grants/Research Funding); Foamix - Investigator (Grants/Research Funding); Formycon - Investigator (Grants/Research Funding); Forward Pharma - Investigator (Grants/Research Funding); Janssen - Investigator (Grants/Research Funding); LEO Pharma - Investigator (Grants/Research Funding); Medac - Investigator (Grants/Research Funding); Novartis - Investigator (Grants/Research Funding); Phi-Stone - Investigator (Grants/Research Funding); Pierre Fabre - Investigator (Grants/Research Funding); Sanofi - Investigator (Grants/Research Funding); UCB Pharma - Investigator (Grants/Research Funding)

V

Vinayak Nahar, MD, PhD; No financial relationships exist with commercial interests.

W

X

Y

Z

Zhen Chen, PhD; Regeneron Pharmaceuticals, Inc. - Employee (Salary), Employee (Stock Options)

Zhixiao Wang, PhD; Regeneron Pharmaceuticals, Inc. - Employee (Salary), Stockholder (Stock Options)