6761 - A Multicenter, Randomized, Double-Blinded, Vehicle-controlled Study to Evaluate the Safety and Efficacy of 5%, 10% and 15% Topically Applied Sofpironium Bromide Gel in Subjects with Axillary Hyperhidrosis / Stacy Smith, MD

Objective 1: To evaluate the effect of sofipironium bromide 5%, 10% and 15% gel on hyperhidrosis disease severity measure when applied topically in subjects with axillary hyperhidrosis.

Objective 2: To evaluate the safety and local tolerability of sofipironium bromide 5%, 10% and 15% gel when applied topically in subjects with axillary hyperhidrosis.

Objective 3: To evaluate the effect of sofipironium bromide 5%, 10% and 15% gel on hyperhidrosis disease severity as it relates to sweat production, patient reported and quality of life self-assessments.

Introduction: Excessive sweating affects approximately 15 million Americans. Treatment is unsatisfactory. Sofpironium bromide is a new molecular entity and “soft” anticholinergic drug. “Soft” drugs are rapidly metabolized in the bloodstream, allowing for better therapeutic effect with fewer systemic side effects.

Methods: A total of 227 subjects at 23 sites were randomized 1:1:1:1 to apply sofipironium bromide gel, 5%, 10%, 15% or vehicle once daily to the axillae for 42 days. All subjects had Hyperhidrosis Disease Severity Measure-Axillary (HDSM-Ax) scores of 3 or 4 (scale, 0-4) with ≥150mg/5min combined axillary gravimetric sweat production (GSP). HDSM-Ax is a validated, patient-reported outcome for measuring axillary hyperhidrosis severity.

Results: Improved outcomes noted as early as Day 8 and held over time. The proportion of subjects achieving ≥1-grade HDSM-Ax improvement was 70.2% in the 5% group (p<0.0387) and 75.9% in the 15% group (p<0.0099) versus 54.4% with vehicle. Where a subject had ≥50% reduction in GSP and ≥1-grade HDSM-Ax change, the proportion of responders was 59.6% in the 5% group (p<0.0154) and 59.3% in the 15% group (p<0.0181) versus 38.6% with vehicle. GSP change by ranked value was -16.68 in the 5% group (p<0.0112) and 27.85 in the 15% group (p<0.0361) versus +6.54 with vehicle. All doses were safe and well-tolerated with 29.8% reporting ≥1 adverse event in the 5% group, and 51.9% in the 15% group, versus 15.8% with vehicle. These were predominantly mild to moderate in severity and resolved spontaneously following treatment.

Conclusion: Sofpironium bromide addresses an unmet need for noninvasive, topical hyperhidrosis treatment.

REFERENCES
6607 - The Burden of Cutaneous Disease in Solid Organ Transplant Recipients with Skin of Colour / Jonathan Kentley, MD

Objective 1: To define the incidence of malignant and non-malignant skin conditions in organ transplant recipients

Objective 2: To describe the differences in skin disease encountered in patients of different ethnicities

Objective 3: To suggest a framework for long-term follow up in transplant patients of different ethnicities

Background: Organ transplant recipients (OTRs) have an increased risk of cutaneous malignancy(1). Patients with Caucasian skin have the highest burden of skin cancer, but there is little data on the skin conditions affecting non-white patients(2). Type of Study: This was a prospective study of all patients reviewed in a dedicated transplant surveillance dermatology clinic at an academic medical center. Methods: Information on 1304 consecutive patients seen between 1989-2016 was extracted from our prospective OTR database and validated by manual record checks. Results: The cohort included 885 white Northern-European, 203 South Asian, 131 Black African/Caribbean, 52 White-Mediterranean, 25 Far East Asian and 8 Middle Eastern OTRs; 829 were male. Keratinocyte neoplasms were more common in white Northern-European patients (squamous cell carcinoma (SCC), basal cell carcinoma, SCC in situ and actinic keratoses (p<0.001)). There was an increased frequency of Kaposi sarcoma (KS) in Black African/Caribbean patients (p<0.001). Infective, inflammatory and non-malignant neoplastic conditions were common. White Northern European patients were more likely to develop sebaceous hyperplasia, porokeratosis, viral warts (p<0.001) and seborrheic dermatitis (p=0.015). Black African/Caribbean patients were more likely to develop acne (p=0.028) and white-Mediterranean patients were more likely to develop pityriasis versicolor (p=0.005). Conclusions: This study has documented high levels of skin disease in OTRs. Whilst skin cancer risk is well established in white OTR, the association of other skin diseases in patients with skin of colour has not been well documented. The patterns of skin disease susceptibility identified have important implications for design of OTR skin surveillance programmes, targeted patient education and optimised clinical management.

REFERENCES

Objective 1: The objectives of these 2 identically designed, randomized, placebo-controlled, parallel-group, phase 3, pivotal trials were to demonstrate the safety, tolerability, and efficacy of sarecycline, a novel tetracycline-class antibiotic in clinical development for the treatment of moderate to severe inflammatory lesions of acne vulgaris.

Objective 2: Specifically, the safety and tolerability of sarecycline in this patient population was of interest, as the use of currently available tetracycline antibiotics for acne is limited by side effects, particularly gastrointestinal, phototoxic, and vestibular effects, and they have broad antibacterial spectra, which is not needed for acne treatment and may promote antibiotic resistance.

Objective 3: Sarecycline, which has a narrow spectrum of antimicrobial activity, including limited activity against enteric Gram negative bacteria, has the potential for less impact on gastrointestinal flora.

Background: Sarecycline is a novel, tetracycline-class antibiotic with anti-inflammatory properties, narrow antimicrobial spectrum, and potentially less impact on gastrointestinal flora.

Type of Study: Two identically designed, randomized, double-blind, placebo-controlled, phase 3 studies.

Methods: Patients aged 9–45 years with moderate to severe facial acne (Investigator’s Global Assessment [IGA] ≥3, 20–50 inflammatory and ≤100 noninflammatory lesions, ≤2 nodules) were randomized 1:1 to sarecycline 1.5 mg/kg/day or placebo for 12 weeks. Efficacy analyses included IGA success (≥2-grade improvement and score 0 [clear] or 1 [almost clear]) and percent change from baseline in inflammatory lesions. Treatment-emergent adverse events (TEAEs) were recorded.

Results: Overall, 2002 patients (mean age, 19.9 years) were randomized. Week 12 IGA success rates were 22.2% (sarecycline) and 13.0% (placebo; P<0.0001). Week 12 mean percent reductions from baseline in inflammatory lesions were 50.4% (sarecycline) and 34.7% (placebo; P<0.0001), with efficacy onset at first follow-up visit (week 3). The most common TEAEs were nausea (3.2% [sarecycline]; 1.7% [placebo]), headache (2.8%; 3.8%), and nasopharyngitis (2.8%; 2.3%). AEs common with systemic antibiotics, including vulvovaginal candidiasis and vulvovaginal mycotic infection, and those common to the tetracycline class, including sunburn, dizziness, photosensitivity, and urticaria, each occurred in <1% of sarecycline patients; vertigo and tinnitus were not observed.

Conclusion: Sarecycline is a novel, tetracycline-class antibiotic representing the first narrow spectrum, targeted therapy for acne. Sarecycline was safe, well tolerated, and effective for moderate to severe acne. Gastrointestinal, phototoxic, and vestibular AEs were uncommon.

REFERENCES
NONE
6699 - Glycopyrronium Bromide-containing Topical Formulations are Safe and Highly Effective in Patients with Primary Axillary Hyperhidrosis
/ Christopher Abels

Objective 1: Safety and local tolerability of topical GPB formulation

Objective 2: Efficacy of topical GPB formulation

Objective 3: N/A

Hyperhidrosis (HH) is excessive sweating mostly due to overactivation of cholinergic signalling with high psychological burden for the patient. Although 2-16% of population suffers from HH, an effective and safe, topical medicinal product to treat primary, axillary HH is still not available. Proprietary oil-in-water emulsions containing 0.5%, 1% or 2% glycopyrronium bromide (GPB, an anti-cholinergic drug) were tested in a first in human, single center, combined single/multiple ascending dose (Phase Ib), double blind, placebo controlled study in axillary HH. Primary objectives of this study (n=30) were to assess safety and tolerability of topical GPB and local tolerability of 3 concentrations of GPB. Secondary objectives were to assess pharmacokinetics (PK) and efficacy by gravimetric measurement and Hyperhidrosis Severity Score (HDSS; scale 1-4). All tested GPB formulations were safe and well tolerated locally. A clear dose-dependency was shown, with highest plasma concentrations measured after topical application of 2% GPB. A strong reduction of sweat production was evident already 8 days after start of treatment and was persistent even in the follow-up period. At day 14 the number of responders (patients achieving reduction of sweating > 75%) was significantly higher (p=0.026) in 1% and 2% GPB group compared to placebo. Additionally, both groups reduced HDSS to 1. Even though 0.5% GPB reduced sweating by 90%, HDSS was not significantly affected. Taken together, topical application of GPB in an oil-in-water emulsion is safe and well tolerated with excellent efficacy at low concentrations of GPB. The necessary clinical trials to obtain market authorization are initiated.

REFERENCES

NONE
**Objective 1:** Gene expression profiling to differentiate inflammatory dermatoses and immune rejection in clinical face transplants

**Objective 2:** To improve understanding of acute rejection in clinical face transplants

**Objective 3:** Development of rejection biomarkers for early and accurate detection of rejection in face transplants

**Background** Face transplantation is a life-transforming procedure for severely disfigured patients. Surveillance of rejection following transplantation relies on histological evaluation of allograft skin biopsies, an approach that cannot reliably distinguish rejection from inflammatory dermatoses. Given that different treatment strategies are required for rejection and inflammatory dermatoses, there is a critical need for biomarkers that can differentiate these pathologies. Type of Study Observational Methods NanoString nCounter platform was used to quantify the expression of 730 genes in skin biopsies collected from 7 face transplant patients during rejection (n=11) and non-rejection (n=11), and compared with facial skin biopsies from non-transplanted patients with rosacea (n=3) and delayed type hypersensitivity reaction (n=4), and healthy non-transplanted facial skin (n=4). Gene expression findings were validated at the protein level using immunofluorescence staining of biopsies. Results We found distinct gene expression profiles associated with rejection, inflammatory dermatoses and normal skin. Comparison of rejection vs. non-rejection biopsies identified 202 differentially expressed genes (adjusted p value <0.05). The results showed that 3 gene sets are over-expressed in rejection and include T cell activation, interferon-gamma responses, and cytotoxicity. Analysis of common genes revealed a set of 142 genes that are differentially expressed exclusively in face transplants during rejection, but not in inflammatory dermatoses or normal skin. Conclusions Using the samples from the largest cohort of face transplant patients at a single center worldwide, this most comprehensive study of its kind reports that skin biopsies from face transplants during rejection, although indistinguishable on histologic analysis from inflammatory dermatoses, reveal extensive differences at the molecular level.

**REFERENCES**

Objective 1: The objective of this phase 4 study was to assess erythema improvement in patient photographs from 2 identically designed, randomized, multicenter, double-blind, parallel-group, vehicle-controlled, pivotal, phase 3 trials of oxymetazoline cream 1.0%, which is an α1A-adrenoceptor agonist approved to treat persistent facial erythema of rosacea in adults.

Objective 2: The protocol for erythema assessment in the phase 4 study allowed investigators to refer to the patient's baseline photo when scoring erythema severity in the postdose photos, whereas erythema assessments in the phase 3 trials were live and static.

Objective 3: The unique approach to erythema assessment in the phase 4 study offers an alternative method for demonstrating the efficacy of oxymetazoline cream 1.0% for the treatment of persistent facial erythema associated with rosacea.

Background: Oxymetazoline cream 1.0% is approved to treat persistent facial erythema of rosacea in adults. This study assessed erythema improvement in photographs from two phase 3 trials of oxymetazoline.

Type of Study: Phase 4

Methods: Two identically designed, randomized, multicenter, double-blind, parallel-group, vehicle-controlled, 29-day trials included standardized digital photography of patients with moderate to severe persistent erythema of rosacea on day 1 before and after treatment with oxymetazoline or vehicle. In this study, investigators compared erythema in baseline and 1-, 3-, 6-, 9-, and 12-hour postdose frontal facial photographs using the Clinician Erythema Assessment (CEA) scale and percent improvement scale (0=none, ~25%=mild, ~50%=moderate, ~75%=marked, ~95%=complete clearing).

Results: Photographs of 835 patients (oxymetazoline n=415, vehicle n=420) showed a significantly greater proportion of subjects treated with oxymetazoline had ≥1-grade CEA improvement from baseline (P<0.0001 vs vehicle; hours 1 [54.9% vs 17.9%], 3 [85.3% vs 26.7%], 6 [84.1% vs 28.8%], 9 [74.7% vs 29.8%], 12 [65.3% vs 27.6%]) and ≥75% erythema improvement from baseline (P<0.0001 vs vehicle; hours 1 [15.7% vs 1.7%], 3 [43.6% vs 3.3%], 6 [36.4% vs 6.7%], 9 [27.7% vs 7.1%], 12 [18.8% vs 5.5%]). Significantly more subjects treated with oxymetazoline than vehicle achieved CEA grade 0/1 (clear/almost clear) at hours 1 (11.6% vs 6.9%; P=0.0398), 3 (33.3% vs 7.6%), 6 (26.5% vs 10.0%), 9 (20.2% vs 9.8%), and 12 (16.1% vs 7.1%; P≤0.0001 for hours 3-12).

Conclusion: Comparative assessment of baseline and posttreatment photographs revealed improvement of persistent erythema of rosacea with oxymetazoline treatment, with significant superiority to vehicle.

REFERENCES
NONE
Objective 1: To investigate the efficacy and safety of prabotulinumtoxinA, a 900 kDa botulinum toxin type A produced by Clostridium botulinum for the treatment of glabellar lines.

Objective 2: N/A

Objective 3: N/A

Methods: This was a European and Canadian 150-day, multicenter, double-blind, active- and placebo-controlled, single-dose Phase III study. Adult subjects (n=540) with moderate to severe glabellar lines at maximum frown as assessed by the investigator on the 4-point Glabellar Line Scale (0=no lines, 1=mild, 2=moderate, 3=severe) were enrolled provided that they felt their glabellar lines had an important psychological impact. Eligible subjects were randomized 5:5:1 to receive a single treatment of 20 U prabotulinumtoxinA (n=245), 20 U onabotulinumtoxinA (n=246) or placebo (n=49). The primary efficacy endpoint was the proportion of responders on Day 30; a responder was defined as a subject with a GLS score of 0 or 1 at maximum frown as assessed by the investigator. Safety outcomes were evaluated throughout the study. Results: Responder rates for the primary efficacy endpoint were 87.2%, 82.8% and 4.2% in the prabotulinumtoxinA, onabotulinumtoxinA and placebo groups, respectively. The absolute differences between prabotulinumtoxinA and placebo groups, and between onabotulinumtoxinA and placebo groups were 83.1% and 78.6%, respectively (both p<0.001). The absolute difference between prabotulinumtoxinA and onabotulinumtoxinA groups was 4.4%; 95% CI (-1.9, 10.8). The lower bound of the 95% CI for the difference was greater than -10.0% therefore non-inferiority of prabotulinumtoxinA versus onabotulinumtoxinA was concluded. Three prabotulinumtoxinA subjects (3/245, 1.2%), 1 onabotulinumtoxinA subject (1/246, 0.4%) and 1 placebo subject (1/49, 2.0%) experienced serious adverse events, none assessed as study-drug related. Conclusion: A single dose of 20 U prabotulinumtoxinA was non-inferior to 20 U onabotulinumtoxinA for the treatment of moderate to severe glabellar lines.

REFERENCES

NONE
6705 - Evaluation of the Efficacy, Safety, and Tolerability of SB204 4% Once Daily in Subjects with Moderate to Severe Acne Vulgaris Treated Topically for Up to 52 Weeks / Adelaide Hebert, MD

Objective 1: To evaluate the efficacy of SB204 in patients with acne vulgaris for up to 52 weeks

Objective 2: To evaluate the safety of SB204 in patients with acne vulgaris for up to 52 weeks

Objective 3: To evaluate the skin tolerability of SB204 in patients with acne vulgaris for up to 52 weeks

Two Phase III 12-week, randomized, vehicle-controlled studies were conducted in subjects ≥ 9 years of age with moderate to severe acne vulgaris to evaluate the efficacy and safety of SB204 4% compared to vehicle (1:1). The integrated study population was 2637 subjects, of which 601 subjects were enrolled into a 40-week long term open label safety study. At the 12-week endpoint, SB204 demonstrated statistically significant reductions compared to vehicle in inflammatory lesion counts (-12.48 vs. -10.88; p<0.001), non-inflammatory lesion counts (-15.06 vs. -12.70; p<0.001), and total lesion counts (-27.52 vs. -23.57; p<0.001) as well as statistically significant percent reductions in all three endpoints. Improvement in the investigator global assessment defined as a two-grade change was 21% vs. 16% (p=0.003) and a two-grade change plus clear or almost clear was 16% vs. 14% (p=0.121). 16% of SB204 subjects reported TEAEs, the most common of which were application site reactions; less than 2% of subjects discontinued due to AEs. No treatment-related SAEs were reported. In the long-term safety study, additional reductions of >50% in inflammatory and non-inflammatory lesions were observed, indicating treatment with SB204 for up to 52 weeks has sustained treatment benefit. The long-term safety study also showed a favorable AE profile: nasopharyngitis was most common (3.2%) while 1.3% of subjects reported application site reactions leading to treatment discontinuation. Overall, SB204 demonstrated statistically significant efficacy after 12 weeks compared to vehicle on multiple endpoints in the treatment of acne vulgaris with a favorable long-term safety profile.

REFERENCES

**F055 - Late-breaking Research: Procedural Dermatology**

Saturday, February 17 from 9:00 AM — 11:00 AM
Room 6D

10:36 am - 10:48 am

**6766 - Treatment of Facial Flushing with Botulinum Toxin A injections: A Split-face, Double-blinded, Randomized Control Trial / Amanda Maisel**

**Objective 1:** To evaluate whether injections of BTX-A will reduce facial flushing in patients compared to placebo saline injections.

**Objective 2:** Participants assessed subject satisfaction of the treatments.

**Objective 3:** N/A

**Background:** Facial flushing can be emotionally distressing for affected patients and current treatments often fail to control symptoms. Botulinum toxin has been hypothesized to function as a treatment. To date there is no high-quality randomized control trial evaluating the effect of botulinum toxin type A (BTX-A) on reducing facial flushing. Methods: This was a randomized, double-blind, controlled, split-face study. Adult participants with persistent facial flushing who met the inclusion/exclusion criteria were enrolled. Participants were randomized to injection with BTX-A on one facial side and saline control on the contralateral side. Patients were photographed and erythema was measured with spectrophotometry at baseline and 1, 4, and 8 weeks after treatment. Patient satisfaction and photograph ratings by 2 blinded dermatologists using the Global Aesthetic Improvement Scale (GAIS) were also performed at each follow-up visit. Results: 16 participants completed the study. At 8 weeks, there was no significant reduction in erythema from baseline on either the BTX-A treated (p=0.116) or control sides (p=0.0598) and there was no difference in erythema between the two sides (p=0.4984). GAIS scores revealed no differences between BTX-A and control at 1 (p=0.4531) and 8 weeks (p=1.00). There was no difference in patient satisfaction scores between the two sides at 1 (p=0.7613), 4 (p=0.35), or 8 weeks (p=0.8202). Conclusion: The findings of this study indicate that BTX-A may not be an effective treatment for facial flushing. Further randomized control trials are warranted to establish if there is a BTX-A dose at which injections could be an effective, well-tolerated, treatment.

**REFERENCES**

7. Oh YJ, Lee NY, Suh DH, Koh JS, Lee SJ, Shin MK.
Objective 1: To determine the efficacy of NB-UVB phototherapy by comparing the increase in hair count among AA patients treated with clobetasol propionate 0.05% ointment plus an adjuvant NB-UVB phototherapy versus clobetasol alone after 8 weeks of treatment.

Objective 2: To determine the safety of NB-UVB phototherapy by identifying adverse reactions that may occur with the use of clobetasol propionate 0.05% ointment with an adjuvant NB-UVB phototherapy versus clobetasol propionate 0.05% ointment alone over 8 weeks of treatment.

Objective 3: To determine the patients’ perception on the efficacy of the treatment provided to them and the status of their alopecic patches based on the global alopecia assessment scale (GAAS).

Introduction: Alopecia areata (AA) is a chronic relapsing inflammatory disorder characterized by non-scarring hair loss on the scalp and/or body. No uniformly dependable treatment is known. Type of Study: This study assessed the efficacy and safety of NB-UVB as an adjuvant treatment for AA through a randomized, observer-blinded, parallel, superiority controlled trial. Methodology: Thirty-three patients were randomly allocated into 2 treatment groups. Group A (n=17) applied clobetasol twice daily and underwent NB-UVB thrice weekly for 8 weeks. Group B (n=16) was treated with clobetasol alone. Therapeutic response was assessed at weeks 2, 4, and 8 based on hair count. The patient’s subjective assessment of hair growth, therapeutic efficacy, and safety were identified at weeks 2, 4, and 8. Results: To compare the increase in hair count between groups across eight weeks, 2-way ANOVA with repeated measures was used. The patients’ perception on therapeutic efficacy and hair growth were analyzed using the Mann Whitney U test. At week 8, group A had a significantly higher mean hair count compared to group B (p-value, <0.0001). Treatment intervention was perceived to be markedly effective by 87.5% of patients from group A versus 18.75% from group B (p-value, <0.0001). Group A observed their alopecic patches to have improved notably while group B failed to see significant improvement from baseline (p-value, <0.0001). No adverse reactions were identified in both groups. Conclusion: NB-UVB phototherapy is a safe and effective adjuvant therapy for AA as it works synergistically with topical steroid in promoting hair growth without phototoxic reactions.

REFERENCES