Results: The lesional endpoint during irradiation was a change from a pre treatment lobular yellow appearance to a creamy white smooth surface. Damage to adjacent normal skin showed no change until the pulse duration exceeded twice that of the sebaceous hyperplasia. Four weeks after the final treatment 3 dermatologists blinded to the date of the photographs and uninvolved with the study evaluated the photos and scored them based on a global assessment comprised of 1) lesion diameter, 2) lesion height, and 3) lesion color. Many lesions resolved almost completely after one treatment and no additional treatment was required. There was a mean global improvement of 3.9 based on color, diameter and height of the lesions. Crusts were noted by all patients and resolved by 10 days. No scarring or pigmentation changes were noted at the final follow period. The one biopsy showed damage to the sebaceous glands that extended to 800 µm deep to the surface. The very deep portion of the lesion (800 µm to 2 mm below the surface) was unaffected.

Conclusion: This novel device achieved nearly complete clinical clearance of sebaceous hyperplasia lesions. Noting the microscopic persistence of very deep portions of a representative lesion, recurrence might occur and longer term follow up studies are planned.

#49

COMBINATION ALA-PDT AND ABLATIVE FRACTIONAL ERBIUM LASER (2940 nm) ON THE TREATMENT OF SEVERE ACNE

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Background: Scaring is a major complication in severe acne patients and difficult to treat in clinical medicine. 5-aminolevulinic acid (ALA) photodynamic therapy (PDT) is a novel treatment on controlling the lesion. Fractional laser resurfacing is a promising treatment option because of its unique wound healing response and depth of penetration.

Study: Prospective, single-arm, pilot study. Forty subjects with severe acne were treated with 15% ALA-PDT for 4 times at 10-day intervals. Then they accepted ablative fractional erbium laser 5 times at 4-week intervals. Three independent investigator evaluated subject outcomes at 3, 6, 12 months post-treatment (primary outcome), respectively; patients also provided subjective assessments of improvement (secondary outcome).

Results: Significant reductions in acne score (P < 0.01) were obtained at follow-up visits after 3, 6, 12 months. After 6 month, the lesion manifestation got overall improvement in 60% of subjects; improvements were moderate to excellent in 30%. After 12 month, 90% of subjects had improved hypertrophy/atrophy scar; 72% of subjects got moderate to excellent improvements. Patients\' self-reports also revealed moderate to excellent improvements (on average) in acne and scar area, and significant improvements in self-esteem at 6 months post-treatment.

Conclusion: PDT can control the inflammation and modulate the local immunity to improve the acne. Fractional resurfacing is a promising new treatment modality for scars and can induce fibrosis formation and remodeling. The combination therapy is a promising approach for severe acne.

#50

A RETROSPECTIVE ANAYLSIS OF THE TREATMENT OF AXILLARY HYPERHIDROSIS WITH A NOVEL MICROWAVE TECHNOLOGY

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Background: Up until now, the treatment of axillary
hyperhidrosis was limited to topical solutions, neurotoxin
injections and complicated surgery (ETS). Topical preparations
and neurotoxin injections treat this condition on a temporary
basis, while surgery carries significant risk and morbidity. A new
non-invasive microwave based technology (miraDry) promises
long-term relief for axillary hyperhidrosis. We evaluated the
efficacy and safety of this treatment in twenty patients. The
objective of this study was to evaluate the safely, tolerability, and
efficacy of new microwave technology (miraDry) for treatment of
axillary hyperhidrosis.

Study: Twenty patients were treated with miraDry. Patients were numbed in axillae through injections of lidocaine 1% with epinephrine 1:100,000. Patients were treated at 5800 mHz with varying settings of 2.4 seconds to 2.7 seconds. Patients were evaluated at 3–7 months following the treatment regarding their outcomes

Results: We have devised a novel hyperhidrosis lifestyle index which we hope to be able to present at the meeting. According to this index, the patients had hyperhidrosis severity index of 4.4 on a scale of 1–10. After the first treatment, patients reported a decline of 52.35% in sweating in axillae. Patients who underwent both treatments reported 96.7% decrease in their severity of hyperhidrosis. A pain score of 3.4 (scale 1–10) was reported by the patients during treatment following local anesthesia with injections of lidocaine with epinephrine. There was no incidence of scaring or infection in this cohort.

Conclusion: This non-invasive procedure utilizing microwave energy is a safe and effective modality for the treatment of axillary hyperhidrosis.

#51

SINGLE-CENTER, PROSPECTIVE STUDY ON THE EFFICACY AND SAFETY OF MICRO-FOCUSED ULTRASOUND WITH VISUALIZATION FOR THE NON-INVASIVE TREATMENT OF MODERATE TO SEVERE FACIAL ACNE

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Background: Acne is a very prevalent skin disorder, affecting more than 85% of adolescents and often continuing into adulthood. The objective of this pilot study was to evaluate microfocused ultrasound with visualization (MFU-V, Ulthera, Mesa, AZ) for the efficacy and safety for non-invasive treatment of moderate to severe combination inflammatory and comedonal facial acne.

 $\bf Study:$ In this IRB-approved study, ten subjects with moderate to severe acne (at least 20 each of inflammatory papulopustular and comedonal lesions), were treated with MFU on the forehead, temples, medial cheek and chin regions. Subjects received three treatments approximately 14 days apart with both a 1.5 mm/ $10\,\rm MHz$ and $1.0\,\rm mm/10\,MHz$ transducer. Subject's pain was measured immediately post treatment. Standardized photography was used immediately pre-treatment and at 14, 30,