

improvement in the softness of the scars as well as the reduction in telangiectasias. Replacing the depigmented and scarred epidermis led to normalization of the skin on the grafted areas. The study on the effect of fibrosis is on-going.

**Conclusion:** More research is needed in understanding the mechanisms of chronic radiation injury as well as devising treatment options for these patients. We still do not understand if treating the skin alone can modulate the micro-environment of a radiation-induced scar and help improve fibrosis. Potential combination of fractional ablative laser in combination with topical medications may be helpful for these patients who otherwise do not have many options.

### #190

#### C-PDT AND INTENSIFICATION

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**Background:** The purpose of this presentation is to highlight the results of the pre-treatment of PDT by intensification with sandpaper. 3 patients respectively aged 72, 74, and 86 years, with basal cell carcinomas in various stages and topography, whose physical condition does not undergo surgery, were eligible for treatment Photodynamic therapy intensification with the sandpaper.

**Study:** 3 patients with basal cell carcinoma, different sizes, different grades, and confirmed by biopsy, were treated by C-PDT with intensification by sandpaper. Then classical protocol is applied: Application of a thin layer of Mal. Incubation 3 hours, 8mn illumination with a red LED lamp, 632 nm 37 J/cm<sup>2</sup>. Contrôle visits at W1, M1, M2 and M3

**Results:** Results obtained are constant in the case 3 with gradual regression of the lesions and healing to 3 months, with clinical and dermatoscopic confirmation. Pain during treatment was increased compared to the single C-PDT but quite tolerable. The side effects such as edema, erythema and crusting were more consistent but without the long-term consequences

**Conclusion:** The intensification technique by dermaroller, fractional CO<sub>2</sub> laser or sandpaper amplifies the therapeutic response to PDT in our presentation, C-PDT has been intensified by sandpaper; results have been spectacular in the 3 cases surgery could be avoided, which would have been more severe consequence for our elderly patients with comorbidities.

## ESLD LASER AND EBD MEDICINE FOR BREAST CANCER PATIENTS

### #113

#### PREVENTION OF ACUTE RADIODERMATITIS BY PHOTOBIMODULATION: PRELIMINARY RESULTS OF A RANDOMIZED, PLACEBO-CONTROLLED TRIAL IN BREAST CANCER PATIENTS

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**Background:** The aim is to evaluate the effectiveness of photobiomodulation therapy (PBMT) in the prevention of acute radiodermatitis (RD) in breast cancer patients undergoing radiotherapy (RT).

**Study:** This randomized, placebo-controlled trial enrolled 66 breast cancer patients that underwent an identical RT regime post-lumpectomy. Patients were randomly assigned to the laser (n = 34) or placebo group (n = 32). There were no significant differences between the two groups with respect to patient- and treatment-related characteristics. Laser or placebo was applied two days a week, immediately after the RT session, starting at the first day of RT. PBMT was delivered using a device that combines two synchronized laser diodes in the infrared range (808–905 nm) with a fixed energy density (4J/cm<sup>2</sup>). Clinical scoring of RD (Radiation Therapy Oncology Group (RTOG) grading scale) and biophysical measurements (skin hydration, transepidermal water loss (TEWL), and degree of erythema) were determined at the first day, at fraction 20 and at the end of RT. In the results section, only preliminary results of the RTOG scores are shown.

**Results:** At fraction 20 of RT, there was no significant difference between the groups in the distribution of RTOG grades (p = 0.524), with most of the patients presenting RTOG grade 1. Towards the end of RT, the skin reactions worsened in the placebo group (p = 0.016), while they remained stable in the laser group (p = 0.207). There was a significant difference in the severity of RD between the two groups (p = 0.021) with a larger percentage of patients experiencing RTOG grade 2 or higher (e.g. moist desquamation) in the placebo group (28.1% vs 5.9%, for the placebo and laser group, resp.) at the last day of RT.

**Conclusion:** The preliminary results of this first randomized, placebo-controlled trial show that PBMT can prevent aggravation of acute RD in breast cancer patients.

### #114

#### TREATMENT OF CHRONIC RADIODERMATITIS WITH VASCULAR LASERS

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**Background:** Related to the improvement of the treatments of breast cancers, including radiotherapy, and the duration of the survival, the frequency of chronic radiodermatitis is growing. This disease includes atrophie of the dermis, dyschromia, and mainly, telangiectasias, located on the presternal area, commonly treated by radiations. The vascular lesions are very visible, reducing the quality of life, and forbidding to forget the previous cancer.

**Study:** This retrospective open study includes all the patients (176) treated since 2001 with a vascular laser for radiation-induced telangiectasia (vascular chronic radiodermatitis). The 176 women presented a total of 234 different lesions (144 on the presternal area, 90 on the lateral side of the breast). The main criteria of efficacy was the number of needful sessions to obtain a 80% reduction in the number of telangiectasias. The others criteria were the rate of satisfaction and the analysis of the side effects. All the patients, (except 4 treated with a 532 nm 10 millisecc laser in 2016) were treated with a pulsed dye laser (595 nm, 7 mm hand piece) using short pulses