

Dr. Pedro Alberto Santos has a Masters' in Anti-aging and Aesthetic Medicine from the University of Complutense in Madrid, Spain. He is a cofounder of the Masters' in Aesthetic Medicine in IFP/SPMECC in Porto, Portugal. Dr. Santos has been working at Aesthetic and Laser Medicine practice since 2013. He is a trainer on lasers and other EBDs and injectables. He is also the Clinical Director of Dr. Wells NorteShopping – Aesthetic and Dental Medicine.



#### Clinical Bulletin

J. LAHA, Vol. 2018, No. 1; p. CB11.

## Laser-Induced Optical Breakdown - Acne Scars Treatment

Pedro Alberto Santos

### Parameters:

|                 |                        |
|-----------------|------------------------|
| Laser system:   | StarWalker MaQX        |
| Laser source:   | Q-Sw Nd:YAG, 1064 nm   |
| Pulse duration: | MaQX-10                |
| Fluence:        | 33.7 mJ/px             |
| Frequency:      | 1.5 Hz                 |
| Handpiece:      | FS20A (9x9 px)         |
| Cooling:        | Zimmer Cryo 6, level 2 |

### Treatment procedure:

Acne scar treatment is a clinical challenge, with typically only a 40% maximum global improvement. The main clinical resource is ablative laser resurfacing, with a long downtime and limited success on darker skin phototypes. Laser induced optical breakdown (LIOB) is a phenomenon that occurs when short-pulsed high-energy lasers (as Q-switched nano/picosecond lasers) induce deep dermal cavitation as result of a non-thermal photomechanical effect. LIOB may be effective in detaching the fibrotic scar tissue, namely with boxcar and rolling acne scars.

The patient is a 64-year-old female with severe facial acne scarring, mostly rolling and boxcar scars. She had previous CO<sub>2</sub> resurfacing treatments with minimal improvement. The protocol used was designed for a new hybrid nano-picosecond and Adaptive Structured Pulse laser, the Fotona StarWalker® MaQX. A single session of LIOB was performed using 33.7 mJ/px, 1.5Hz, MaQX-10, 6 passes, FS20A handpiece (9x9px). Cold air was applied with Zimmer Cryo® 6, level 2 for pain control. Regenerating cream and sun protection were prescribed for aftercare.

The patient reported mild to no pain (2 out of 10 on VAS). Mild to no erythema could be observed at the end of the treatment, and there was no downtime. Significant aesthetic improvement was achieved with a single session. The patient and results were evaluated at 21 days post-op.

LIOB can be an important weapon to manage depressed acne scars, with low pain and downtime, however, a significant number of cases are needed to evaluate its efficacy and safety properly.



Laser & Health  
ACADEMY

Published by the Laser and Health Academy. All rights reserved. © 2018

Disclaimer: The intent of this Laser and Health Academy publication is to facilitate an exchange of information on the views, research results, and clinical experiences within the medical laser community. The contents of this publication are the sole responsibility of the authors and may not in any circumstances be regarded as official product information by the medical equipment manufacturers. When in doubt please check with the manufacturers whether a specific product or application has been approved or cleared to be marketed and sold in your country.



Before scar-revision treatment



21 days after treatments