AESTHETIC AND COSMETIC DERMATOLOGY (LASERS SEPARATE CATEGORY)

AUGMENTED REALITY IN AESTHETIC DERMATOLOGY: SEE "DEEP HEATING" ENERGY-BASED SKIN TIGHTENING IN A NEW ANGLE

Wen-hsien Ethan Huang [1]

Genehope Medical Aesthetics Group, Aesthetic Dermatology, Taipei [1]

Introduction: Augmented reality (AR) is a type of technology in which an environment is enhanced through the process of superimposing computer-generated virtual content over real structure, enhancing the sensory perception of reality. Aesthetic dermatology is a field in which AR technology can be successfully utilized to enhance diagnosis, treatment, and education outcome. Objective The purpose of this study was to develop an efficient novel AR-based navigation system with thermal imaging technology for "deep heating" energy-based skin tightening and to discuss future trends in AR technology. Materials and Methods Fourty healthy female patients between the ages of 35 and 60 (mean, 40 years), who wished to improve their facial skin laxity with noninvasive skin tightening devices from Sep 2016 to Sep 2017 were studied retrospectively. All patients were treated with combined microfocused ultrasound (Ultherapy) and radiofrequency (Thermage ThermaCool NXT)under real-time thermal monitoring with our novel AR-based navigation system in each session to further optimize tissue tightening. Results Our AR-based navigation system with thermal imaging technology was successfully used in these patients, directly displaying critical navigational information on to the surgical field. The novel AR assistance allowed for more precise identification, as well as a much safer and efficient practice in "deep heating" skin tightening. Conclusions This study reports on an novel effective visualized approach for guiding "deep heating" energy-based skin tightening. Our AR-based navigation system with thermal imaging technology may lay a foundation for all energy-based device navigation. Given that many aesthetic procedures are defined by complex anatomy with great demand for accuracy and safety, our specialty should embrace such technology and remain at the forefront of its development, not only for patient’s safety, but also for being used in medical teaching.