KTP Equals Pulsed Light for Photodamage

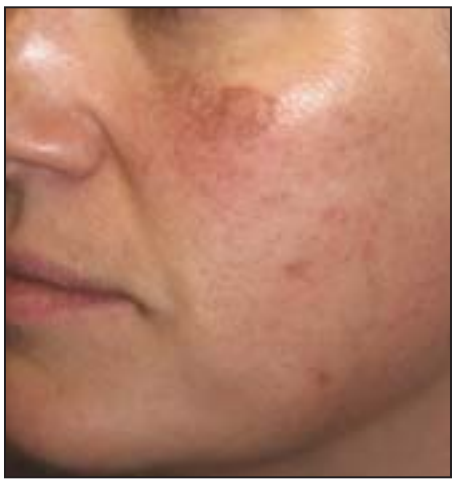
BY KERRI WACHTER
Senior Writer

LAKE BUENA VISTA, FLA. — Potassium titanyl phosphate laser treatment can provide results comparable to and perhaps even better than intense pulsed light that is now considered the preferred method for treatment of photoaging, according to data presented at the annual meeting of the American Society for Laser Medicine and Surgery.

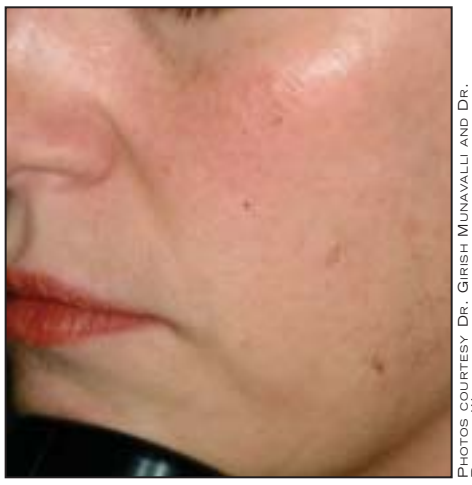
In a study designed to compare the two treatments, a 532-nm potassium titanyl phosphate (KTP) "green" laser (Gemini, made by Laserscope) with a 10-mm spot size was used to treat one side of the face, and intense pulsed light (Quantum SR, made by Lumenis) was used to treat the other side, said Girish Munavalli, M.D., a dermatologic surgeon at Johns Hopkins University in Baltimore. A total of 16 patients with diffuse redness and photoaging pigmentation (Fitzpatrick skin types I-IV) were treated.

The emission profile of the 532-nm KTP laser predicts very good absorption by hemoglobin and melanin. "In addition to the absorption spectrum, as you increase the spot size to 10 mm you get deeper penetration of this wavelength," Dr. Munavalli explained.

Treatment with the KTP laser lasted for 90-120 seconds at 7-9 J/cm^2 (20-millisecond pulses). Contact cooling is used with this device. Intense pulsed-light (IPL) treatment lasted 3-5 minutes at 26 J/cm^2 using a 560-nm filter (2.5-millisecond pulses, 6-millisecond double pulses with a 10-millisecond delay). A thin ice-cold gel layer technique was used with both devices.



Skin shows diffuse erythema and pigmentation from photoaging.



After Gemini laser treatment, vascularity and pigmentation are improved.

PHOTOS COURTESY DR. GIRISH MUNAVALLI AND DR. ROBERT WEISS

Dr. Munavalli has no financial interest in either of the devices used in this study.

Patients were evaluated at 1 week and at 1 month using a standardized scale (1-10) by the treating physician. Canfield stereotactic imaging was performed, and a physician blinded to the study evaluated these images.

At 1 week, physician evaluation rated the KTP treatment as producing an overall improvement in vascularity and pigmentation of 64%, compared with a 50% improvement for IPL. Patients rated the two treatments as producing overall improvements of 56% and 40%, respectively.

At 1 month, both sides were rated as producing an improvement of 50%. However, 14 of 16 patients opted for the KTP laser for subsequent treatments, preferring its efficacy, treatment times, and comfort. KTP induced slightly more erythema and edema at 10 and 24 hours posttreatment.

Stereotactic imaging resulted in equivalent if not slightly better reduction of the components of photoaging (lentigines, telangiectasias) with KTP, compared with IPL alone.

The Gemini laser can also be set for spot sizes between 1 and 5 mm, in 0.1-mm increments. In addition the KTP laser can be switched out with a 1,064-nm Nd:YAG laser.

The system has received Food and Drug Administration clearance for the treatment of acne, wrinkles, vascular and pigmented lesions, and hair removal. ■

Radiesse Efficacious as Soft Tissue Filler

BY DAMIAN McNAMARA
Miami Bureau

MIAMI BEACH — Calcium hydroxylapatite can effectively fill wrinkles, correct acne and other scars, and augment lips, although there is a learning curve with lips, David J. Goldberg, M.D., said at a symposium sponsored by the Florida Society of Dermatology and Dermatologic Surgery.

Calcium hydroxylapatite (Radiesse, BioForm Medical Inc.) is identical to a natural compound in human bone and teeth. Oncologists, orthopedists, dentists, and other health care professionals have used the material for years in implants and drug delivery systems. The Food and Drug Administration approved the biomaterial for vocal cord injections, as a tissue marker, and for periodontal use for onlay of bone. Nasolabial folds and HIV facial lipoatrophy studies are currently pending.

Soft tissue filler uses are off label, but it is a legal use of the product, according to Dr. Goldberg, who is in private practice in Westwood, N.J.

There is no need for sensitization testing because calcium hydroxylapatite is nonallergic. Other advantages from a patient's perspective include the product's long-term effectiveness, its lack of migration, and minimal downtime (soft tissue swelling for about 24-48 hours and some bruising are possible).

Dr. Goldberg surveyed 155 of his patients 6 months after soft tissue augmentation with the filler, and 90% indicated they would use it again.

Calcium hydroxylapatite is packaged as cellulose-based gel with a glycerin-water base. No reconstitution is required. Its consistent viscosity makes it easy to inject. Other potential advantages for physicians include its stability, a shelf life of 2 years without refrigeration, and its compatibility with other cosmetic procedures, said Dr. Goldberg, who is also director of laser research and Mohs surgery at Mount Sinai School of Medicine, New York.

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The filler stays soft in tissue. It is long lasting but not permanent, and eventually resorbs. A disadvantage is predicting exactly how long the correction will last. For example, 12-22 months after injection, 30%-100% of initial results remain, according to Dr. Goldberg. Another potential disadvantage is formation of lip nodules. Use of the filler in lips is best left to experienced operators, he emphasized at the meeting.

A small volume is needed for correction. For example, only 1-2 cc is required for nasolabial folds or the corners of the mouth. A total of about 1 cc is required for upper and lower lip augmentation, unless a very large increase in volume is desired.

Dr. Goldberg recommended a threading technique. Inject a thin thread of the material as the needle is withdrawn. The typical injection is 0.05 cc. A 25- to 27-gauge, 1.25-inch needle is recommended for nasolabial folds. A smaller 0.5-inch, 25- to 27-gauge needle is recommended for injecting the corners of the mouth.

Local anesthesia with epinephrine is recommended. Also consider doing a nerve block prior to lip augmentation. A small amount of local anesthetic in the lips promotes vasoconstriction, Dr. Goldberg said.

The calcium hydroxylapatite implant does not calcify or ossify. The particles act as scaffold for tissue infiltration, he explained. There is a self-limited fibroblastic response. The particles are not osteoinductive: They do not cause fibroblasts to differentiate to become osteoblasts. ■