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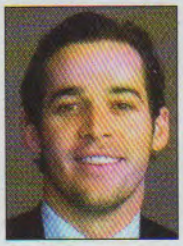

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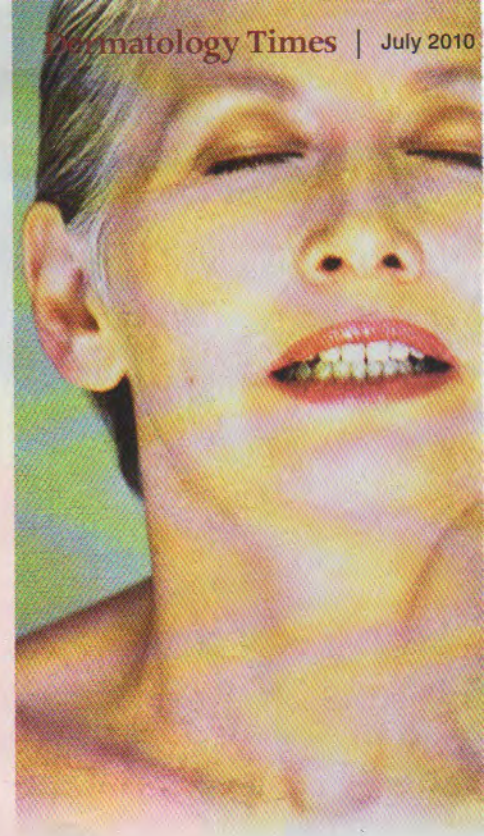

Off-face photoaging

Laser, light therapy useful in combating signs of sun exposure on neck, chest

Photoaging of the neck and chest is a common concern among patients. One of the most frequent clinical presentations is poikiloderma of Civatte (PC). First described by French dermatologist Achille Civatte in 1923, it is characterized by brown to pink patches of superficial atrophy, telangiectasia and mottled hyper- and hypopigmentation.

Poikiloderma of Civatte predominantly affects fair-complected, middle-aged to elderly women more often than men. Although it is generally asymptomatic, PC is bothersome to cosmetically sensitive patients.

A histopathological study of 50 patients with PC offers insight into its etiopathogenesis. Investigators found that all samples exhibited solar elastosis, and more than 90 percent showed dilated blood vessels and melanophages laden with melanin in the papillary dermis, as well as atrophy of the epidermis (Katoulis, et al. *Br J Dermatol*. 2002;147(3):493-497). These three targets of photoaging of the chest and neck are important to take into account when choosing the appropriate treatment modality for patients.

As we know, ultraviolet radiation is the central player in photoaging. Patients may conscientiously apply sunscreen to their face, yet often they neglect their neck/upper chest area. Poikiloderma of Civatte is also potentially a phototoxic/photoallergic condition, so in addition to recommending complete sunscreen application, physicians should caution their patients about fragrance/cosmetic use in these areas.

> Intense pulsed light (IPL) is an attractive option for the management of PC, as its endogenous chromophores include both hemoglobin and melanin.

Treatment options

Chemical peels and topical retinoids can improve the texture and appearance of mild to moderate PC. However, these treatments may require lengthy application with little to no improvement in the vascular component.

On the other hand, improved laser and light-source technologies offer the cosmetic physician an increasingly diverse armamentarium for treating PC. One of the mainstays of treatment has been the pulsed dye laser (PDL), shown to significantly improve the vascular and pigmentary components of PC. Complications associated with PDL for PC have included post-treatment purpura, atrophic/hypertrophic scarring and dyspigmentation. In a 2006 case series, Meijs et al caution that a low fluence should be employed when treating the thin skin of the upper chest/neck to avoid late-onset depigmentation experienced by six out of seven of their patients (Meijs, et al. *J Eur Acad Dermatol Venereol*. 2006 Nov;20(10):1248-1251).

Intense pulsed light (IPL) is also an attractive option for the management of PC, as its endogenous chromophores include both hemoglobin and melanin. In 2008, Rusciani et al reported that of 175 patients with PC treated with IPL, 80 percent experienced improvement in the vascular and pigmented components with only transient side effects (Rusciani, et al. *Dermatol Surg*. 2008;34(3):314-319). They concluded that IPL is a safe and effective device for PC management, but advised that experience is required to select among the multiple treatment parameters to obtain optimal results.

As the skin in the neck and chest area is much thinner and lacks the sebaceous glands density present on the face, treatments with any laser or light device in this area should be done at less aggressive settings. These "lighter" settings include lower fluences and longer pulse widths than those traditionally used on the face.

In many cases, the chest will have confluent photodamage. In these circumstances, we use an IPL with a longer

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wavelength cutoff (590 nm instead of 560 nm) to avoid the striping sometimes seen with initial treatments of severely tanned or photodamaged areas.

Fractional resurfacing

A relatively new option for PC patients is fractional laser resurfacing. Nonablative fractional photothermolysis (NAFP) for PC was first reported in a 2006 case by Behroozan et al where a single treatment with a 1,550 nm device resulted in clinical improvement in erythema and dyschromia with no adverse events at two-month follow-up (Behroozan, et al. *Dermatol Surg*. 2006;32(2):298-301). Though the wavelengths used in NAFP do not directly target hemoglobin, improvements in abnormal vasculature are seen in PC, striae and scars.

Additionally, patients may note a clinical improvement in the textural changes of photoaging of the chest, even without the presence of PC. It is important to note that dramatic tightening of the neck is not seen with the nonablative devices. Lower-density treatments, as used in all off-face locations, should be used in the chest and neck areas.

A recent report by Tierney and Hanke found that in addition to the aforementioned benefits of NAFP, one to three treatments with an ablative fractional CO_2 laser (10,600 nm) offered a majority of their 10 patients improvement in skin texture and a reduction in laxity (Tierney, et al. *J Drugs Dermatol*. 2009;8(6):527). At the University of Miami, an ablative YSGG device (2,790 nm) was used on the chest in 10 patients in a low-fluence double-pass method for photoaging. There were no long-term complications demonstrated in any of the patients treated (poster presentation at the 2010 annual meeting of the American Society for Lasers in Medicine and Surgery).

However, ablative fractional resurfacing of the neck and upper chest is not without risk of complication. In 2009, Fife et al reviewed four patients who experienced complications with ablative fractional photothermolysis. Two developed fibrotic bands overlying the platysma and scarring of the neck area (Fife, et al. *Lasers Surg Med*. 2009;41(3):179-184). The authors hypothesize that the laser may have penetrated the thin epidermis and dermis of the neck, thereby affecting the underlying musculature. They recommend using extra caution in the delicate upper chest/neck area by utilizing low energy and density.

The use of laser and light devices for the treatment of photoaging of the neck and chest, including poikiloderma of Civatte, is both safe and effective. Choices depend on the type of photoaging present, with vascular lesions targeted best by the PDL and IPL devices. Pigmentary abnormalities respond well to both IPL and the nonablative fractional devices, whereas textural changes are more amenable to treatment with the nonablative fractional devices.

Fractional ablative resurfacing of the neck and chest can bring dramatic clinical results, including skin tightening, but it must be done with caution. Consideration of the depth of the skin and relative lack of subcutaneous fat in this area is important in order to avoid scarring.

As laser and light source technologies continue to rapidly evolve, physicians and their patients will have more effective therapeutic options for addressing photoaging of the neck and chest. DT

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with use of fillers such as Restylane (hyaluronic acid, Medicis) to enhance the overall aesthetic outcome of the area.

Maintenance treatments could be scheduled twice a year; however, the frequency of touch-up treatments depends highly on the patient's degree of success in altering their mimicking habits and actively relaxing the muscles in the chin area.

While botulinum toxin can force a more aesthetically acceptable cosmetic result, a permanent cosmetic benefit will likely result if the patient can concomitantly change the habit of holding the chin in this manner.

"We do not know all that we think we know about Botox and Dysport in terms of their potential indications in the cosmetic arena. There are new and evolving indications for botulinum toxin in the aesthetic field, and its use in relaxing the chin musculature, effectively treating the dimpling of the chin, is just one example of botulinum toxin's therapeutic spectrum," Dr. Schlessinger says. DT

A 47-year-old patient before (left) and two weeks after treatment with 10 units of Botox and two syringes of Restylane at the pre-jowl sulcus-nasolabial fold. The patient was

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Disclosures: Dr. Schlessinger is a speaker for Allergan and Medicis.