

Evaluating Cosmetic Outcomes and Patient Compliance When Selecting Therapies for Acne Vulgaris

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Acne vulgaris is the most common dermatologic disorder; dermatologists see patients with acne on a regular basis. This article discusses treating acne, conveying the importance of patient compliance, and achieving cosmetic outcomes with certain treatment modalities. Ultimately, acne vulgaris is a treatable disease, and patients who comply with the regimen that is prescribed by their dermatologists will benefit from the numerous available treatment options. *Cosmet Dermatol.* 2011;24:432-436.

Acne vulgaris is the most common dermatologic disorder; dermatologists see patients with acne on a regular basis. Approximately 30% of all visits to dermatologists are related to acne vulgaris and its sequelae.¹ Acne vulgaris affects both males and females of all ages, and it has been noted that 94% of the female population in the United States will be affected by acne vulgaris at some point in their lives.²⁻⁴

Acne vulgaris is a multifactorial disease that is hormonally mediated and genetically controlled.⁵ Serious

psychosocial events have been linked to the disease in susceptible patients, and scarring also is a major concern among patients with inflammatory acne. Dermatologists must take the treatment of acne vulgaris seriously by teaching patients how to properly utilize the medicines and procedures that are available to them. Treatment programs should be tailored to each patient's needs and lifestyle, as treatment ultimately will be facilitated by the patient, not the physician, once it is prescribed. Cosmetic outcome is important in preventing or lessening the psychosocial stigma that often is associated with acne vulgaris.

Patient compliance plays a substantial role in the effective treatment of acne vulgaris and alleviation of cosmetic and psychosocial concerns in patients. Zaghoul et al⁶ found that a variety of disease-related and social factors influence compliance with treatment in acne, including perceived treatment failure. Baldwin⁷ also emphasized the connection between adherence and therapeutic efficacy. She noted that the physician's effectiveness in dealing with the individual patient affects compliance, making it the physician's role to recognize, confront, and improve noncompliant behavior.⁷ Thiboutot et al⁸ discussed counseling the patient to improve compliance and adherence

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to treatment. Patients must be educated about the causes of acne, the medications prescribed, the time frame to see treatment results, and the need for long-term maintenance therapy.⁸

This article will discuss my approach to treating acne and conveying the importance of patient compliance when prescribing and recommending medications and treatment routines to ensure a positive cosmetic outcome.

SELECTING ACNE THERAPIES

In dermatologic therapy today, a host of effective medications are available to help patients with acne vulgaris, even patients who are in their most vulnerable state because of their psychosocial concerns. Patients often do not utilize the medicines or therapies that are recommended by physicians, which can delay resolution of acne lesions.

To increase compliance in acne patients, physicians must listen to their patients' concerns and then tailor a treatment program to effectively address each patient's lesions according to his/her particular needs and lifestyle. Patients experience frustration if the dermatologist is not interested in their acne concerns; therefore, spending time with patients is crucial. If the patient does not follow the physician's recommendations and prescribed treatment regimen, the physician obviously has not conveyed the importance of compliance to that patient. Listening is a learned trait, and many physicians do not listen well enough to their patients.

Once the physician listens to the patient and assesses the degree of his/her acne vulgaris, a therapeutic program that the patient can easily follow is devised. If a series of products are prescribed that the patient has to apply at various time intervals throughout the day, the regimen may be impractical and compliance certainly will be an issue. If it is determined that a systemic agent is required for treatment but the optimal time to take that systemic agent does not fit in with the patient's lifestyle, compliance is not likely. Optimizing the times at which medications are taken will improve compliance in patients.^{7,8}

FASTER VISIBLE IMPROVEMENT

Most acne patients are looking to see improvement shortly after beginning therapy. The biggest compliance issue among patients with acne vulgaris is that medications can take time to start working; for some medications, it can take 2 to 4 weeks, while others can take even longer. Dermatologists sometimes fail to inform patients that some medications take time before the effects are noticeable. Many physicians prescribe medications but do not schedule the patient for follow-up visits soon enough after the

initial consultation. This extended period of time can leave the patient wondering and sometimes struggling to find out when the treatment is going to start working or whether it is going to work at all, which can lead to more compliance issues. Acne patients should be scheduled for regular follow-up visits to address any questions or concerns and to make sure that the treatment is working, the patient is following the regimen, and the products are being tolerated. If not, adjustments to the routines should be made accordingly.

The sooner the patient sees a visible improvement in his/her acne and the faster acne lesions begin to resolve, the more compliant he/she is likely to be in following the treatment program that the physician recommends. To that end, I utilize several treatment plans that are designed to improve acne vulgaris faster than traditional medications alone.

Photopneumatic Devices

Photopneumatic devices have received clearance from the US Food and Drug Administration for the treatment of both inflammatory and noninflammatory acne lesions. The use of a photopneumatic (PPx) device has been shown to improve acne lesions in many patients as quickly as 2 days after treatment.⁹⁻¹¹ The PPx device is a pulsed light device that utilizes a vacuum apparatus to bring the skin closer to the light source, selectively targeting the *Propionibacterium acnes* in the sebaceous gland to destroy the bacterium and resolve the associated lesions quickly and effectively. Clinical trials have demonstrated the effectiveness of the PPx device in the treatment of acne and in eliciting a faster response in clearing lesions than traditional medical routines.^{9,10,12} Therefore, compliance is positively impacted.

An institutional review board–defined clinical trial enrolled 11 participants with mild to moderate acne vulgaris.¹¹ The patients received 4 PPx treatments at 3-week intervals and returned for follow-up visits at 1 and 3 months. It was noted that inflammatory lesions continued to improve during the follow-up time periods in the majority of participants following the final PPx treatment. At the 3-month follow-up visit, a 78% reduction in inflammatory acne vulgaris lesions ($P=.0137$) and a 57.8% reduction in noninflammatory lesions ($P=.0383$) was observed. Both of these reductions were noted as significant in this population. Participants noted improvement in acne lesions within 2 days following the first PPx therapy session. Pain was found to be minimal among the study population, which is important to note when a laser or light source is used in the treatment of acne vulgaris. Overall, 82% (9/11) of participants in this study reported that they were satisfied with the PPx therapy.¹¹

THERAPIES FOR ACNE VULGARIS

Currently, there are 2 PPx devices on the market: Isolaz (Solta Medical) and Acleara Acne Clearing System (Palomar Medical Technologies, Inc). Although they utilize different cooling mechanisms (internal vs external), both are effective in the treatment of acne vulgaris. Figure 1 shows the clinical results achieved with PPx treatment. When treated with PPx devices, patients often note that their acne improves faster than with traditional medicine alone,⁹ and patients are more likely to comply with all aspects of their treatment regimen when they are satisfied with the results. In addition, when treated with pulsed light or intense pulsed light, the skin appears smoother with an improvement in tone and texture, which is an added benefit that has been demonstrated numerous times over the years.¹¹

COSMETIC OUTCOMES

Cosmetic improvement also is part and parcel of what dermatologists can offer their acne patients. There are several effective new options to use in the treatment of acne scars, which are one of the worst sequelae experienced by acne patients and are sometimes the main reason for related psychosocial problems. The treatment of acne scars can impact both compliance and cosmetic outcomes.

Several of the new options at the dermatologist's disposal include fractional lasers and other fractional energy-based devices.¹³⁻¹⁵ Fractional lasers traditionally are classified as nonablative and ablative, and both have shown efficacy in the treatment of acne scars. Ablative lasers usually achieve faster results, albeit with more potential downtime.^{13,14} Figure 2 demonstrates the results with fractional laser therapy for acne scars. A new modality called bipolar fractional resurfacing (now known as sublative rejuvenation) involves minimal epidermal disruption and dermal remodeling and also has demonstrated positive results in treating acne scars, as shown in Figure 3. Sublative rejuvenation (eMatrix, Syneron Medical Ltd) offers minimal downtime compared to traditional ablative resurfacing and also may work quickly in reducing scars in many patients.¹⁵ In my experience, the utilization of these fractional therapies has helped acne outcomes and compliance.

CONCLUSION

Utilizing lasers, light sources, and other energy-based systems certainly can increase compliance and cosmetic outcomes in acne vulgaris patients. Patients will be thankful for these new and exciting services. For



Figure 1. An acne patient before (A) and after 5 treatment sessions using a photopneumatic device (Isolaz, Solta Medical)(B).

dermatologists in the cosmetic arena, patients will learn more about you and your skills through your treatment of their medical needs; if they see desirable results in

the improvement of their acne vulgaris, you will be their physician of choice when they seek other cosmetic procedures.

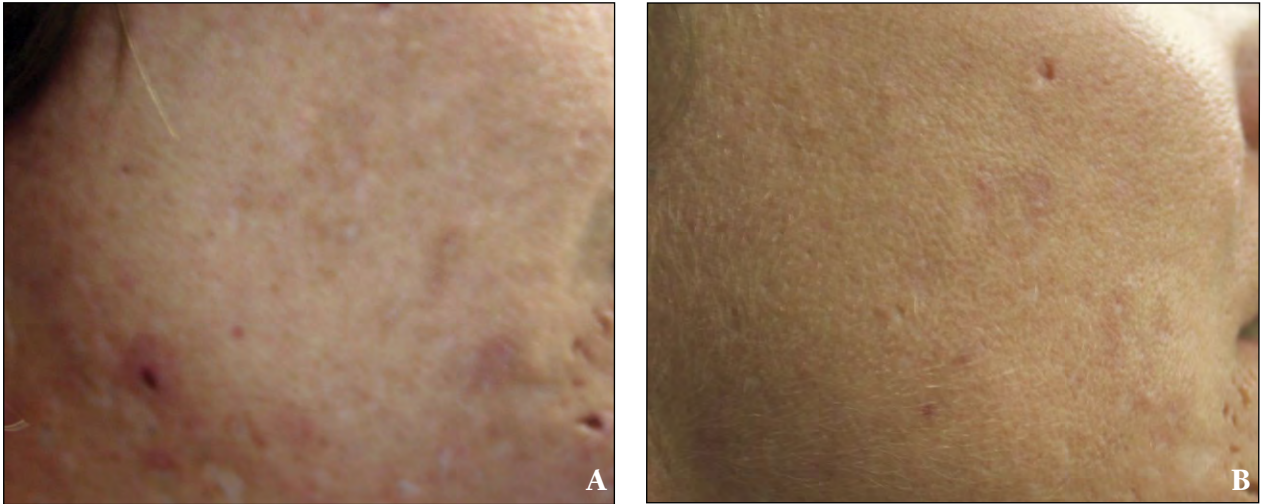


Figure 2. An acne patient with scars before (A) and 1 month after a single treatment session using a fractional CO₂ laser (UltraPulse, Lumenis Aesthetic)(B).



Figure 3. An acne patient with scars before (A) and 2 weeks after a single treatment session using subablative rejuvenation (eMatrix, Syneron Medical Ltd)(B).

REFERENCES

1. Del Rosso JQ. Acne in the adolescent patient: inter-relationship of psychological impact and therapeutic options. *Today Ther Trends.* 2001;19:473-484.
2. Leyden JJ. Therapy for acne vulgaris. *N Engl J Med.* 1997;336:1156-1162.
3. Leyden JJ. Oral isotretinoin. how can we treat difficult acne patients? *Dermatology.* 1997;195(suppl 1):29-33.
4. Gold MH. Phototherapy for acne: what is the best approach? *Expert Rev Dermatol.* 2010;5:159-172.
5. Gold MH. Acne and PDT: new techniques with lasers and light sources [published online ahead of print January 16, 2007]. *Lasers Med Sci.* 2007;22:67-72.
6. Zaghoul SS, Cunliffe WJ, Goodfield MJ. Objective assessment of compliance with treatments in acne. *Br J Dermatol.* 2005;152:1015-1021.
7. Baldwin HE. Tricks for improving compliance with acne therapy. *Dermatol Ther.* 2006;19:224-236.
8. Thiboutot D, Dréno B, Layton A. Acne counseling to improve adherence. *Cutis.* 2008;81:81-86.
9. Munavalli GS, Weiss RA. Rapid acne regression using photopneumatic (PPX) therapy. *Lasers Surg Med.* 2007;39(suppl 19):22.
10. Shamban AT, Enokibori M, Narurkar V, et al. Photopneumatic technology for the treatment of acne vulgaris. *J Drugs Dermatol.* 2008;7:139-145.
11. Gold MH, Biron J. Efficacy of a novel combination of pneumatic energy and broadband light for the treatment of acne. *J Drugs Dermatol.* 2008;7:639-642.
12. Dierickx CC. Treatment of acne vulgaris with a variable-filtration IPL system. *Lasers Surg Med.* 2004;34(suppl 16):66.
13. Gold MH. Fractional technology: a review and clinical approaches. *J Drugs Dermatol.* 2007;6:849-852.
14. Gold MH. Update on fractional laser technology. *J Clin Aesthet Dermatol.* 2010;3:42-50.
15. Hruza G, Taub AF, Collier SL, et al. Skin rejuvenation and wrinkle reduction using a fractional radiofrequency system. *J Drugs Dermatol.* 2009;8:259-265. ■