

# HOW TO DEFINE ACNE MAINTENANCE AND WHAT COULD PREDICT MAINTENANCE THERAPY SUCCESS ?

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## INTRODUCTION

Maintenance therapy is necessary for many acne patients, as acne lesions have been shown to return after discontinuing a successful treatment regimen.<sup>1,3</sup> While international guidelines recommend the use of topical retinoids for maintenance following initial combination treatment with an antimicrobial<sup>1</sup>, to date, no formal definition of acne maintenance exists. Among the currently available topical retinoids, adapalene is best tolerated<sup>4</sup> and therefore is a rational choice for maintenance therapy. Recently a study was carried out to assess the effect of adapalene gel 0.1% compared to its vehicle in maintaining acne improvement of subjects who completed an initial adapalene-doxycycline combination therapy.<sup>5</sup> Post-hoc analyses were performed to evaluate a possible relationship between demographic or baseline disease characteristics and maintenance therapy success, and to explore several acne maintenance definitions. The results are presented hereafter.

## METHODS

- In an initial, randomized, multicenter, parallel-group study, patients with severe facial acne vulgaris received doxycycline once-daily in the morning and either adapalene or adapalene gel vehicle once-daily in the evening for 12 weeks. At the end of the 12-week combination therapy, patients showing at least moderate improvement from baseline (50% improvement from baseline), were re-randomized to receive either adapalene 0.1% gel, or vehicle once daily in the evening for a 16-week maintenance treatment period.
- The primary analysis had shown that, at Week 28, the maintenance success rate, defined as the percentage of patients maintaining 50% of the improvement obtained with the prior combination therapy, was significantly superior with adapalene than with the vehicle ( $p < 0.05$ ). Since no definition of assessment acne criterion such as relapse or maintenance exists in clinical trials, we defined our criterion based on the definition of psoriasis relapse as proposed by a medical advisory group (ie maintenance of  $\geq 50\%$  improvement).<sup>6</sup>

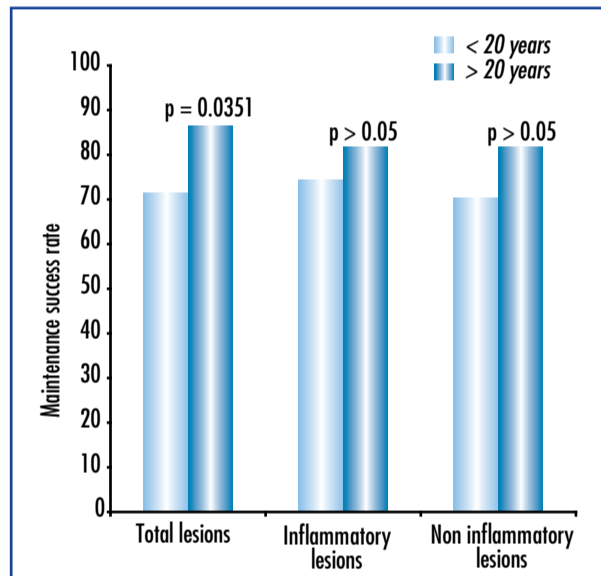
- Post-hoc analyses were performed on all types of lesions and on severity grade:
  - To assess the possible relationship between the maintenance success rate at week 28 and demographic or baseline disease characteristics.
  - To evaluate the robustness of our choice for the definition of maintenance in a clinical study setting. To do so, the efficacy of the maintenance therapy at week 28 was reanalyzed using various definitions of maintenance success:
    - Maintenance > 60%
    - Maintenance > 70%
    - Maintenance > 80%
    - Maintenance > 90%
    - Maintenance = 100%
 (absolute maintenance: same number of lesions as week 12 or less)

For the severity grade, only the absolute maintenance was appropriate and corresponded to the percentage of patients having the same severity grade (or lower) than at the end of the combination therapy.

## RESULTS

- A total of 253 patients were enrolled in the maintenance therapy study (54.5% male and 45.5% female, mean age 17.9 years, ranging from 12 to 32 years).
- No relationship of maintenance success with gender or race was observed, whereas maintenance of total lesion improvement was better for patients older than 20 years.

### MAINTENANCE THERAPY IS MORE SUCCESSFUL IN >20 YEAR-OLD PATIENTS

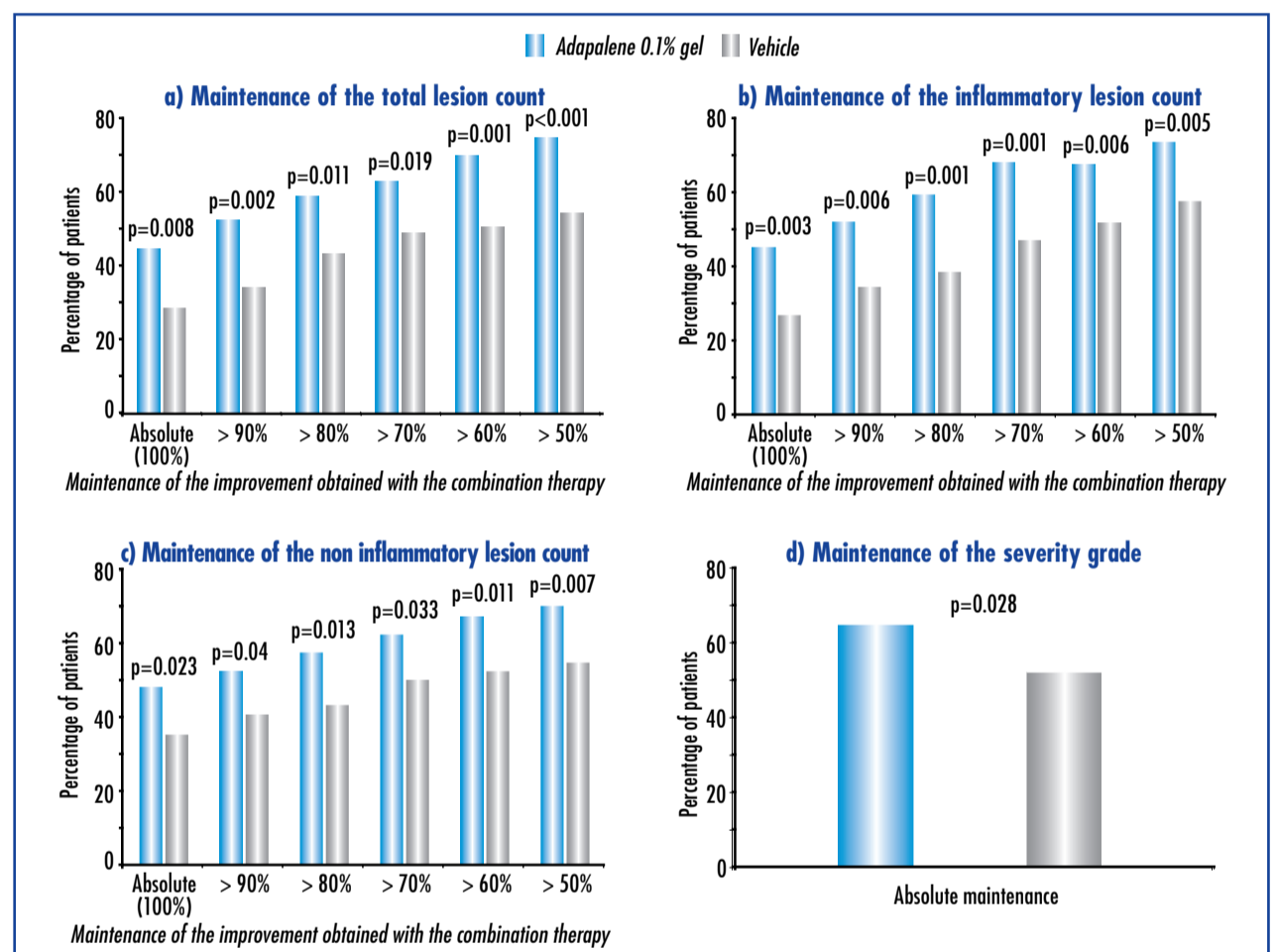


### THE NUMBER OF TOTAL LESIONS AT BASELINE COULD PREDICT THE MAINTENANCE SUCCESS ON ALL LESION TYPES

	SUCCESS	FAILURE	p value
<b>50% maintenance in inflammatory lesions</b>			
N	166	53	
Mean total lesion count at baseline $\pm$ SD	82.45 $\pm$ 30.05	75.43 $\pm$ 31.87	0.0479
<b>50% maintenance in non-inflammatory lesions</b>			
N	159	60	
Mean total lesion count at baseline $\pm$ SD	83.05 $\pm$ 30.65	74.67 $\pm$ 29.77	0.0276
<b>50% maintenance in total lesions</b>			
N	163	56	
Mean total lesion count at baseline $\pm$ SD	83.01 $\pm$ 30.67	74.20 $\pm$ 29.59	0.0240

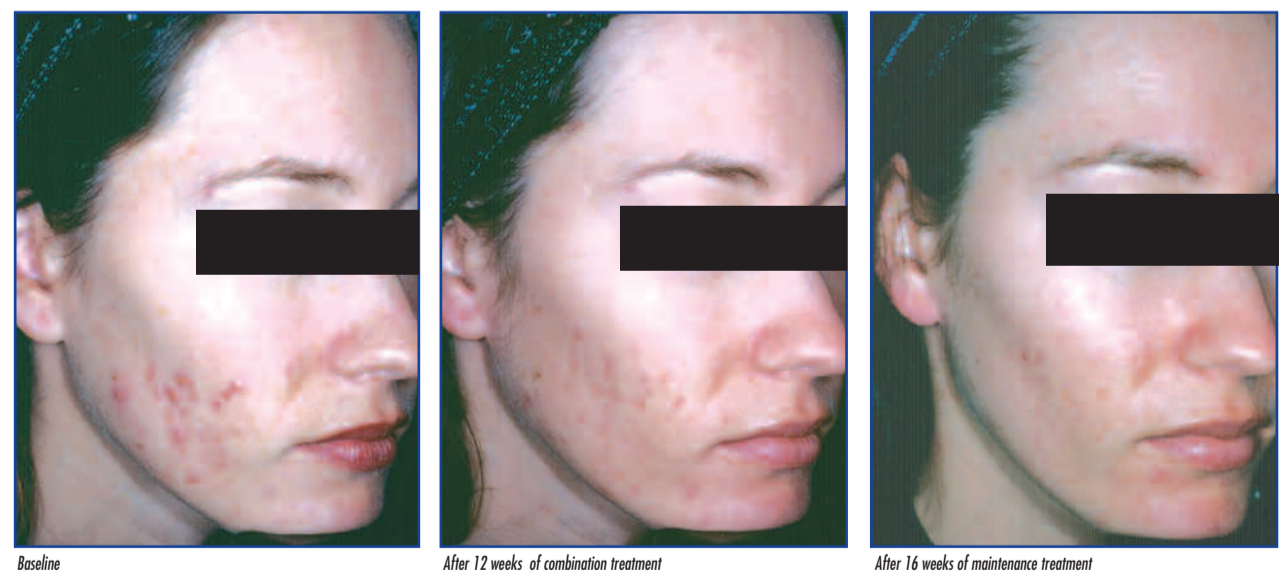
It was demonstrated that the greater the number of total lesions before any treatment, the more effective the maintenance therapy on inflammatory, non-inflammatory and total lesions.

### WHATEVER THE DEFINITION OF MAINTENANCE, ADAPALENE WAS SIGNIFICANTLY BETTER THAN THE VEHICLE AFTER 16-WEEK MAINTENANCE TREATMENT



After 16 weeks of maintenance treatment, the efficacy of adapalene was significantly better than the vehicle for any definition of maintenance, even the most stringent ones, in terms of inflammatory, non-inflammatory, total lesions and severity grade.

### EFFECT OF 16 WEEKS OF MAINTENANCE THERAPY WITH ADAPALENE GEL 0.1% FOLLOWING A 12 WEEK COMBINATION THERAPY WITH ADAPALENE GEL 0.1% PLUS DOXYCYCLINE ON SEVERE FACIAL ACNE LESIONS



## REFERENCES

- Gollnick H et al. Management of acne. A report from a Global Alliance to Improve Outcomes in Acne. *J Am Acad Dermatol.* 2003;49(1 suppl):S1-S37.
- Thielitz A, et al. Control of microcomedone formation throughout a maintenance treatment with adapalene gel, 0.1%. *J Eur Acad Dermatol Venerol.* 2007 Jul;21(6):747-53.
- Wolf JE. Maintenance therapy for acne vulgaris: the fine balance between efficacy, cutaneous tolerability, and adherence. *SKINmed.* 2004;3:23-26.
- Waugh J, et al. Adapalene: a review of its use in the treatment of acne vulgaris. *Drugs.* 2004;64:1465-1478.
- Thiboutot DM, et al. Adapalene gel, 0.1%, as maintenance therapy for acne vulgaris: a randomized, controlled, investigator-blind follow-up of a recent combination study. *Arch Dermatol.* 2006 May;142(5):597-602.
- Gardon KB, et al. Definitions of measures of effect duration for psoriasis treatments. *Psoriasis Forum* 2002;8:1-5.

## CONCLUSIONS

- Adapalene 0.1% gel maintenance therapy was more effective in patients above 20 years and in more severe acne.
- Whatever the definition of maintenance, adapalene 0.1% gel proved significantly better than its vehicle in maintaining the acne improvement obtained with the prior combination treatment.