

## What's new in acne treatment: an American perspective

*Dr. Linda STEIN GOLD, Director of Dermatology Clinical Research and the Division Head of Dermatology at Henry Ford Health System, Detroit, MI, U.S.A, discussed developments in acne treatment at a symposium co-organized by the Hong Kong Society of Dermatology and Venereology and the Hong Kong Association of Specialists in Dermatology and chaired by Dr. HO King Man.*

The Global Alliance to improve Outcomes in Acne published recommendations for the treatment of acne. First-line acne treatment suggestions include a topical retinoid, with or without benzoyl peroxide (BPO), and topical/oral antibiotics (AB) for mild and moderate disease. Oral antibiotics are added for more inflammatory and widespread disease. Oral isotretinoin is appropriate for severe nodular acne. Long-term maintenance therapy with a topical retinoid, with or without BPO, or BPO/topical AB, is an important component of treatment [1,2].

### Compliance

Complex treatment regimens can adversely impact patient compliance, with >50% being non-compliant in one series [3]. Other factors affecting compliance include poor satisfaction with treatment, and impaired quality of life (QoL) due to shame and embarrassment.

Means of improving compliance include better patient/parent education with realistic treatment timelines, prescription of medications that show rapid results and improved tolerability, and once-daily dosing.

### Adapalene/BPO combination

Adapalene and BPO both have excellent safety profiles. The preclinical programme for fixed-combination adapalene 0.1% and BPO 2.5% gel (Epiduo®), which showed no new safety concerns, were found based on pharmacokinetic studies of interaction between the two active ingredients, and repeated dose toxicity. There was no reduced penetration of either agent when used in combination [4].

#### Phase III trials

The efficacy and safety of 12 weeks of treatment with adapalene-BPO, adapalene and BPO monotherapy, and the gel vehicle were assessed in a multicentre, double-blind, parallel group study performed in 1,668 adult subjects with acne vulgaris [5]. The combination was found to be more effective than the other three groups, and was superior for all primary assessments. The safety and tolerability of Epiduo was comparable with that of adapalene.

#### Long-term efficacy

The long-term safety and efficacy of the Epiduo gel was

assessed in a 12-month multicentre, open-label study in 452 adult patients with moderate acne (IGA=3) who were well matched for baseline demographic and clinical characteristics [6]. Epiduo gel was active against total, inflammatory and non-inflammatory lesions, and there was a rapid onset of activity. These improvements in efficacy and good tolerability were maintained throughout the 1-year study.

#### Synergism

The net beneficial effect of Epiduo gel is significantly greater than that with adapalene plus BPO (Figure), which may result from BPO eliminating *P. acnes* and adapalene down-regulating the cell surface Toll-like receptor type II, through which *P. acnes* induces production of inflammatory cytokines [7].

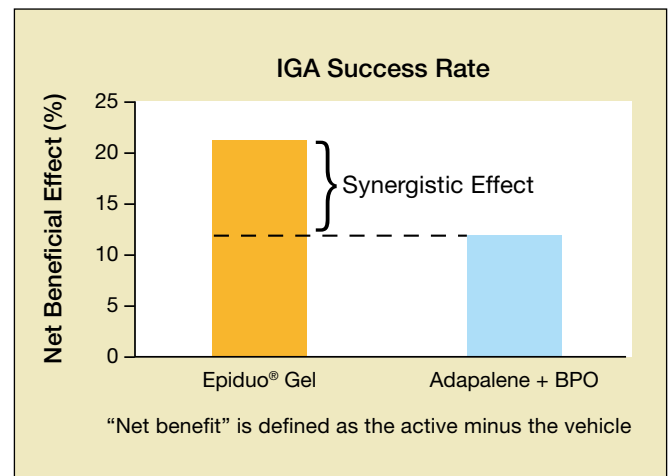


Figure. Synergistic effect of Epiduo gel versus adapalene + BPO [7].

### ACCESS study

ACCESS was a 12-week, multicenter double-blind, randomized, controlled, parallel-group comparison of the efficacy and safety of topical fixed-dose Epiduo gel plus oral doxycycline 100 mg (n=232), with vehicle gel plus doxycycline 100 mg (n=227) in adult patients with severe facial acne (IGA=4) [8].

Addition of Epiduo gel to doxycycline resulted in a significantly greater rate of clinical success at the end of 12 weeks, of 32% versus 8% (P<0.001) clinical success with vehicle plus the AB.

A significantly greater decrease of –21% was seen in the total lesion count 2 weeks from the start of Epiduo plus doxycycline, versus –13% with vehicle plus the AB. At week 12, these decreases were –64% versus –41%, respectively ( $P < 0.001$ ), with similar significant median percent reductions from baseline in both inflammatory and non-inflammatory lesions in favour of the active treatment combination.

Epiduo gel was well tolerated, with mild increases in erythema, burning/stinging, dryness, and scaling reported after 2 weeks in the Epiduo gel arm having returned to baseline by week 4. The overall incidence of adverse events was low (11.8%) and comparable between the two groups.

## Conclusions

Epiduo is the first fixed-dose topical retinoid plus BPO combination available in an aqueous, moisturizing, barrier-enhancing vehicle. Epiduo targets three out of four of the pathophysiological factors responsible for

acne: hyperkeratinization, bacterial proliferation, and inflammation. Reducing both inflammatory and comedonal lesions, Epiduo is a safe and effective once-daily stable formula for mild to moderate acne.

## References

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