Oral Sarecycline for Moderate to Severe Acne Vulgaris

Results from Two 12-Week, Phase 3, Randomized, Double-blind Clinical Trials

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Objective

- To evaluate the efficacy and safety of sarecycline, a once-daily, **narrow-spectrum** tetracycline-class drug in moderate to severe acne

Introduction

- Oral broad-spectrum tetracycline-class antibiotics are prescribed for the treatment of moderate to severe inflammatory acne
- Poor tolerability and bacterial resistance concerns may limit the use of broad-spectrum tetracycline antibiotics for the treatment of acne

Design & Methodology

Male and female Aged 9 to 45 years Between 33 kg and 136 kg	Moderate to severe (IGA ≥ 3) facial acne 20 – 50 Inflammatory Lesions ≤ 100 Noninflammatory Lesions ≤ 2 Nodules	Subjects randomized 1:1 to Sarecycline 1.5 mg/kg/day oral or Placebo

- Two phase 3 multicentre, randomized, double-blind, placebo-controlled, parallel group studies.
- Up to 35 day screening period to establish eligibility and baseline
- 12 week double-blind treatment with study visits at 3, 6, 9, and 12 weeks

- Co-primary efficacy endpoints:
  - Absolute change in facial inflammatory lesion count at week 12
  - IGA Success – IGA score of 0 (clear) or 1 (almost clear) and ≥ 2 point improvement from baseline
- Secondary endpoints included absolute and percent change from baseline in inflammatory lesions at weeks 3, 6, & 9.

Results

In SC1401 and SC1402 (Table 1) IGA success rates were 21.9% and 22.6% (sarecycline) versus 10.5% and 15.3% (placebo; *P* < .0001 and *P* = .0038). Onset of efficacy in inflammatory lesion reduction occurred as early as week 3, with mean percentage reduction in inflammatory lesions at week 12 in SC1401 and SC1402 of 52.5% and 50.8% (sarecycline) versus 35.2% and 36.4% (placebo) (Figs 1 & 2). Efficacy on truncal acne in (Fig 3). Adverse events ≥ 2% in any group are shown in Table 2.

Table 2. Adverse Events ≥ 2% in any group

SC1401			SC1402		
TEAEs	Sarecycline n = 481	Placebo n = 483	TEAEs	Sarecycline n = 513	Placebo N = 513
Nausea	4.6%	2.5%			
Nasopharyngitis	3.1%	2.9%	Nasopharyngitis	2.5%	2.9%
Headache	2.7%	2.7%	Headache	2.9%	4.9%
Vomiting	2.1%	1.4%			

Vestibular, phototoxic, vulvovaginal candidiasis, and mycotic infections ≤1.1% in sarecycline treated patients. Gastrointestinal TEAE rates were low

Table 1. IGA Success and Inflammatory Lesion Efficacy at Week 12

	SC1401			SC1402		
Outcome Measure	Sarecycline n =- 483	Placebo n = 485	P	Sarecycline n = 519	Placebo n = 515	P
IGA Success*	21.9%	10.5%	0.0001	22.6%	15.3%	0.0038
Mean Percent Reduction in Inflammatory Lesions	52.2%	35.2%	0.0001	50.8%	36.4%	0.0001

*Note: IGA Success defined as ≥2-grade improvement and score 0 [clear] or 1 [almost clear]

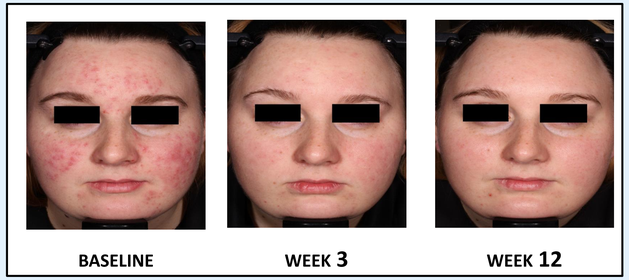


Fig 1 & 2. Mean % Reduction in Inflammatory Lesions

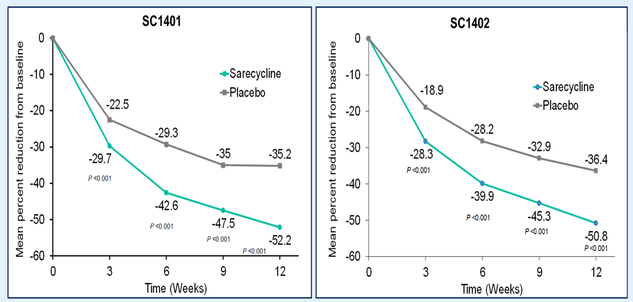
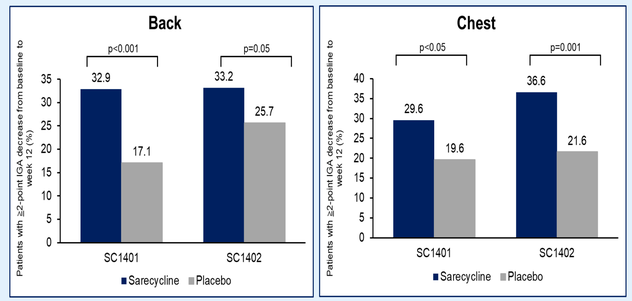


Fig 3. Truncal Acne: % of Patients with IGA success at WK 12



Conclusions

- Sarecycline, a **narrow-spectrum** tetracycline class antibiotic **specifically designed for acne** is FDA-approved for moderate to severe acne in **ages 9 and older** with established **safety up to 12 months.** Sarecycline demonstrated **little or no activity against gram-negative bacteria**, **low propensity to induce resistance, and low** rates of GI**, vestibular, photoxicity, and vaginal candidiasis**. Results were seen as **early as 3 weeks** and were statistically significant at 12 weeks in achieving IGA Success (defined as ≥2-grade improvement and score 0 [clear] or 1 [almost clear]) and reduction in inflammatory lesion count. **Significant reductions in both inflammatory and comedonal lesion counts were shown** along with **proven efficacy on truncal acne (back and chest)**.

Reference: Moore A, Green LJ, Bruce S, et al. Once-Daily Oral Sarecycline 1.5 mg/kg/day Is Effective for Moderate to Severe Acne Vulgaris: Results from Two Identically Designed, Phase 3, Randomized, Double-Blind Clinical Trials. Journal of drugs in dermatology: JDD. 2018 Sep;17(9):987-96.

Financial Support: This study was funded and sponsored by Allergan. Sarecycline is owned and marketed by Almirall, LLC.