Efficacy and Safety of Narrow-spectrum Oral Sarecycline for Moderate to Severe Acne Vulgaris

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Introduction

- Sarecycline is a narrow-spectrum tetracycline-class antibiotic designed for the treatment of moderate-to-severe acne.
- Sarecycline's narrow-spectrum anti-bacterial activity and lipophilicity may minimize side effects commonly associated with broad-spectrum tetracyclines, such as minocycline and doxycycline.
- Here, we report the results of 2 identically designed, phase 3 pivotal trials, SC1401 and SC1402, to evaluate the efficacy and safety of once-daily sarecycline (n=2002).

Methods

Males and females
Aged 9 to 45 years
Between 33 kg and 136 kg

n=2002

Subjects randomized 1:1 to Sarecycline 1.5 mg/kg/day oral or Placebo

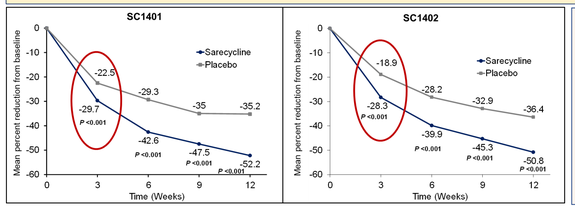
Moderate to severe (IGA ≥ 3) facial acne
20 – 50 Inflammatory Lesions
≤ 100 Noninflammatory Lesions
≤ 2 Nodules

- 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 efficacy endpoints included absolute and percent change from baseline in inflammatory and noninflammatory lesions at weeks 3, 6, 9 & 12. IGA success for truncal acne was reported as well

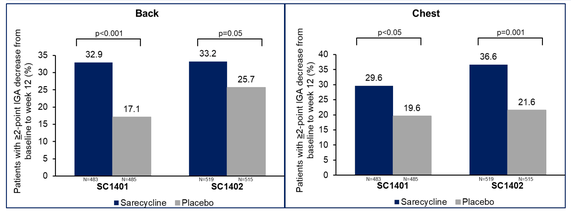
Efficacy

Facial Acne



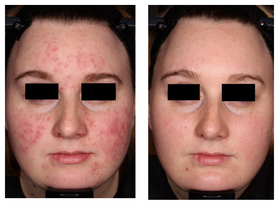
- Statistically significant reduction in mean absolute and percent **inflammatory lesion count** as early as week 3. **IGA success** rates were 21.9% and 22.6% (sarecycline) versus 10.5% and 15.3% (placebo; *P* < .0001 and *P* = .0038)
- Statistically significant reduction in comedonal lesion count was observed at week 6 in SC1401, and at week 9 in SC1402

Truncal Acne (back and chest)



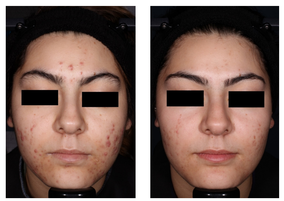
- The same IGA scale was used for the chest and back assessments as for facial acne
- **Back**: Significant improvements at week 12 in SC1401 (-32.9 vs -17.1%; p < 0.001) and SC1402 (-33.2 vs -25.7%; p < 0.05).
- **Chest**: Significant improvements was seen at week 12in SC1401 (-29.5 vs -19.6%; p < 0.05) and SC1402 (-36.6 vs -21.6%; p < 0.001)

Co-primary Efficacy Endpoints	SC1401			SC1402		
	Placebo N=485	Sarecycline N=483	Difference (95% CI) [p-value]	Placebo N=515	Sarecycline N=519	Difference (95% CI) [p-value]
Change from baseline in inflammatory lesion count at Week 12, LS Mean (SE)	-10.1 (0.6)	-15.3 (0.6)	-5.2 (-6.7, -3.6) **[<0.0001]**	-10.7 (0.5)	-15.1 (0.6)	-4.4 (-5.8, -2.9) **[<0.0001]**
IGA success at Week 12	10.5%	21.9%	11.05 (6.39, 15.72) **[<0.0001]**	15.3%	22.6%	7.30 (2.53, 12.07) **[0.0038]**



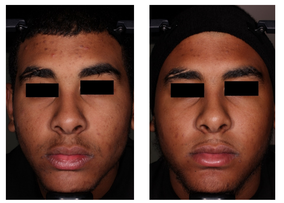
23 years-old female

	Baseline	Week 12
IGA score	4	1
Inflammatory lesions	50	4
Comedonal lesions	22	17



19 years-old female

	Baseline	Week 12
IGA score	4	1
Inflammatory lesions	33	8
Comedonal lesions	33	5



14 years-old male

	Baseline	Week 12
IGA score	3	0
Inflammatory lesions	21	0
Comedonal lesions	62	4

Safety

TEAEs Common to Tetracycline-class Antibiotics	SC1401		SC1402	
	Placebo (N=483)	Sarecycline (N=481)	Placebo (N=513)	Sarecycline (N=513)
Nasopharyngitis	8 (1.7%)	15 (3.1%)	15 (2.9%)	13 (2.5%)
Headache	13 (2.7%)	13 (2.7%)	25 (4.9%)	15 (2.9%)
Gastrointestinal adverse events				
Nausea	12 (2.5%)	22 (4.6%)	5 (1.0%)	10 (1.9%)
Vomiting	7 (1.4%)	10 (2.1%)	2 (0.4%)	3 (0.6%)
Diarrhea	8 (1.7%)	5 (1.0%)	6 (1.2%)	6 (1.2%)
Abdominal pain	6 (1.2%)	6 (1.2%)	1 (0.2%)	3 (0.6%)
Vestibular effects				
Dizziness	7 (1.4%)	3 (0.6%)	4 (0.8%)	2 (0.4%)
Vertigo	0	0	0	0
Tinnitus	0	0	0	0
Phototoxic effects				
Photosensitivity	0	0	0	1 (0.2%)
Sunburn	2 (0.4%)	3 (0.6%)	1 (0.2%)	4 (0.8%)
Vaginal yeast infections in females				
Vulvovaginal candidiasis	0	3 (1.1%)	0	1 (0.3%)
Vulvovaginal mycotic infection	0	2 (0.7%)	0	3 (1.0%)

Conclusion

- The FDA-approved narrow-spectrum antibiotic sarecycline was safe, well-tolerated, and effective for moderate to severe inflammatory acne vulgaris in patients 9 years old and older
  - Significant reduction in inflammatory lesions as early as 3 weeks
  - Significant improvement in truncal acne (chest and back) was reported
  - Significant improvement on comedonal acne was reported as well
- Incidence of side effects commonly associated with tetracycline-class antibiotics was low (<5%)

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 provided by Almirall, LLC