LYRA THERAPEUTICS

Creating precisely tuned medicines so patients can breathe freely

LANTERN STUDY 6-MONTH POST-TREATMENT OUTCOMES & LYR-210 PK STUDY DATA

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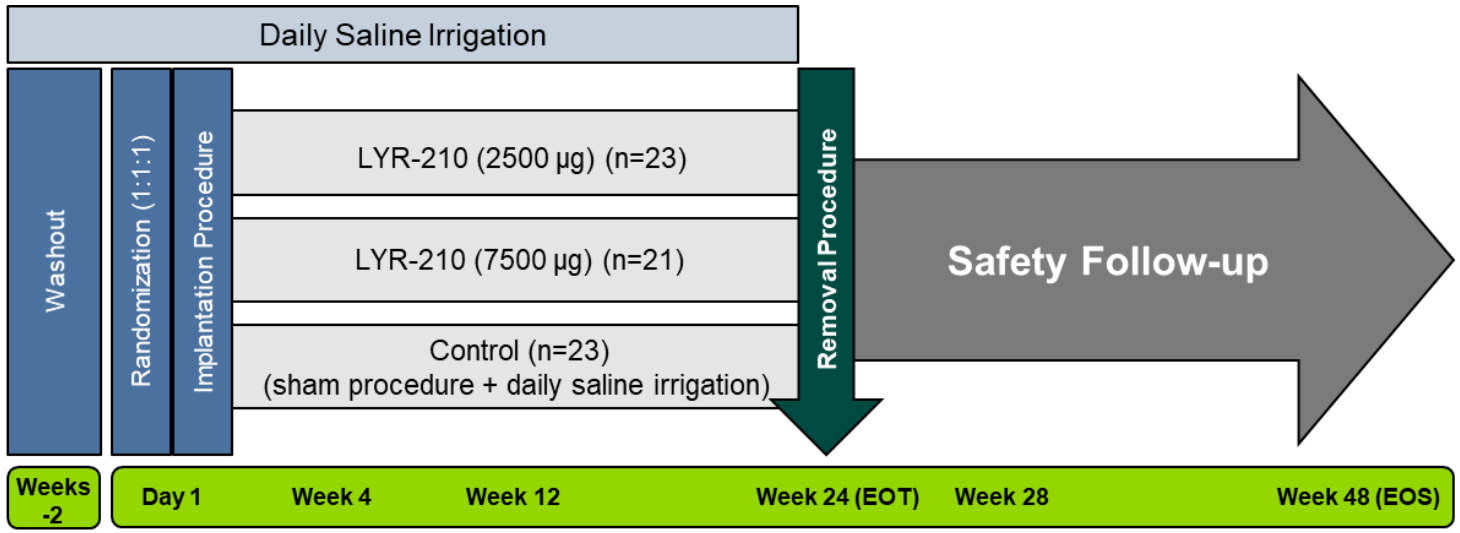
LANTERN STUDY 6-MONTH POST-TREATMENT OUTCOMES

LYRA THERAPEUTICS

LANTERN PHASE 2 STUDY DESIGN AND POST-TREATMENT EVALUATION

Multicenter, randomized, controlled, dose-ranging study



Study population: *Surgically naïve adults with moderate-to-severe CRS who failed previous medical management*

Post-Treatment Period: Weeks 24-48

- **Objective:**
  - Assess long-term safety post-removal
- **Clinical assessments included:**
  - Safety
  - Rescue treatment use
  - Cardinal symptom scores

EOT = End of Treatment. EOS = End of Study.

POST-TREATMENT PERIOD (WEEKS 24-48) ADVERSE EVENTS

No increased incidence of treatment-related AEs in the post-treatment period

AEs reported by more than 1 patient

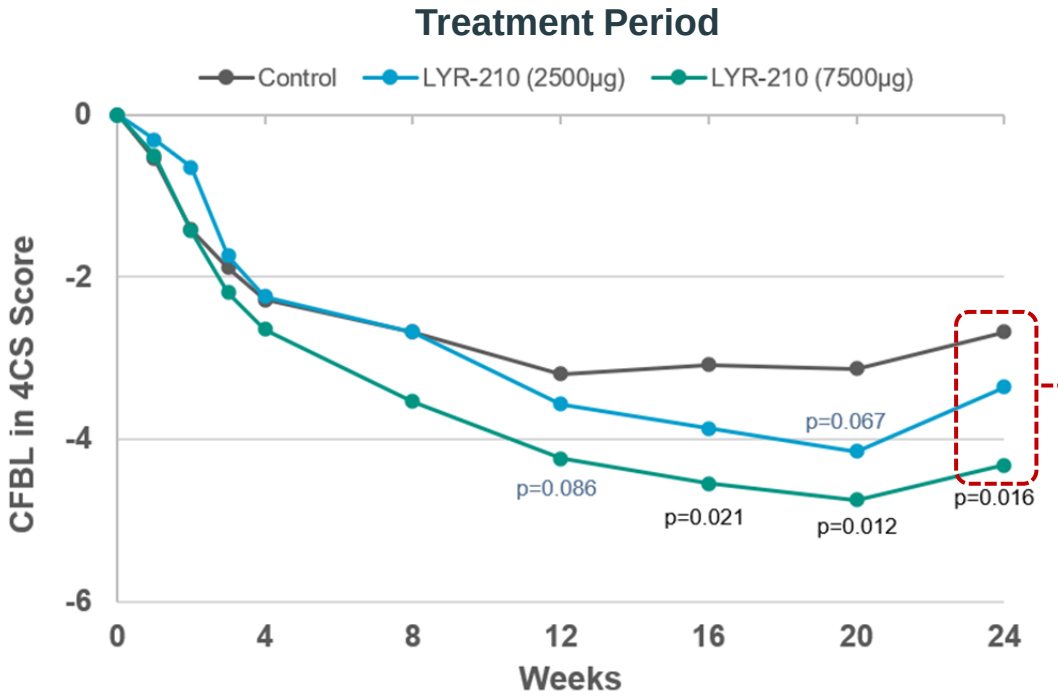
Event System Organ Class Preferred Term	LYR-210 (2500µg) n=24	LYR-210 (7500µg) n=23	Control n=23
Adverse Events			
Infections and infestations			
Chronic sinusitis *	2	1	0
COVID-19	0	1	1
Nasopharyngitis	0	1	1
Respiratory, thoracic and mediastinal disorders			
Cough	1	1	0
Epistaxis	1	0	1
Nervous system disorders			
Headache	3	0	1
Serious Adverse Events			
Prostate Cancer		1	
Chronic sinusitis * (surgery)			1
Breast Cancer			1

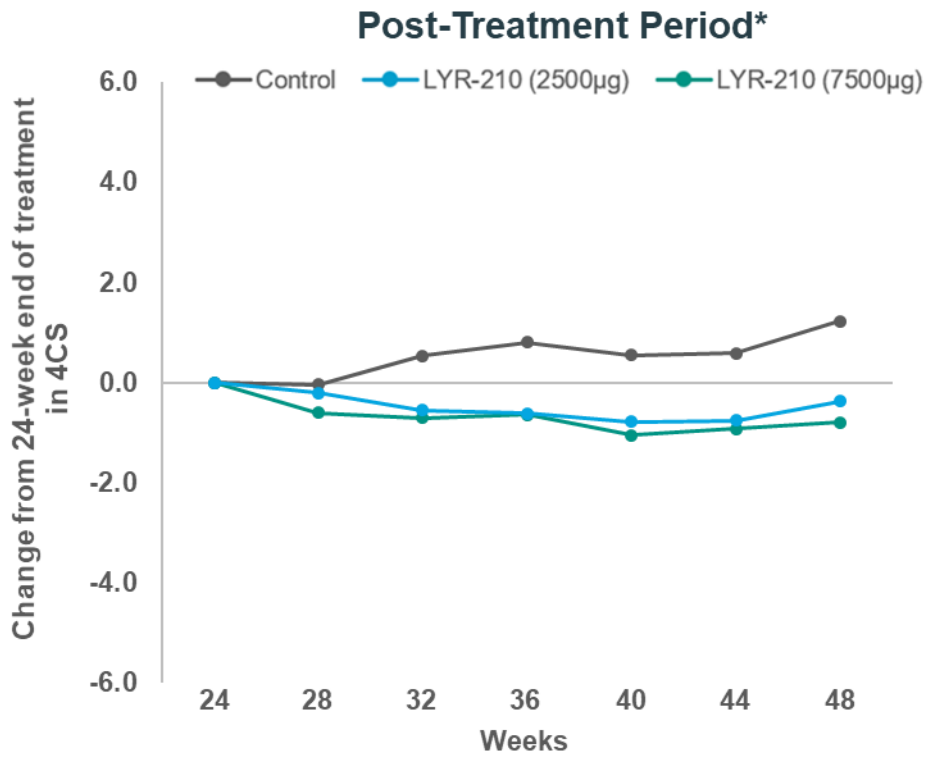
- Minimal post-treatment AEs
- No patients had a clinically significant increase in IOP (>10 mmHg) in one or both eyes
- No significant changes in IOP from baseline at Week 48
- Post-treatment SAEs were unrelated to study treatment or removal procedure

AEs were coded using the Medical dictionary for Regulatory Activities (MedDRA) Version 23.1. A post-treatment AE is defined as any AE starting or worsening more than 28 days after the removal/sham procedure. If a patient reported an AE more than once within that System Organ Class/ Preferred Term, the patient was counted only once for that System Organ Class/ Preferred Term. The Preferred Terms were summarized for AEs reported by more than 1 patient in the post-treatment stage. * MedDRA Preferred Term for exacerbation/worsening of chronic sinusitis. AE = Adverse Event. SAE = Serious Adverse Event. IOP = Intraocular Pressure.

4 CARDINAL SYMPTOM COMPOSITE SCORE (4CS)

Mean trends show lasting treatment effect post-removal of LYR-210 in patients





Source: Cervin A, et al. [published online ahead of print, 2021 Sep 17]. Int Forum Allergy Rhinol. 2021;10.1002/alr.22883.

~73% mean compliance with daily nasal saline irrigation throughout the Post-Treatment Period

***Excluded from Post-Treatment Period Analysis:** Patients with missing data in the post-treatment period and patients who received rescue treatment prior to completing 80% of the post-treatment follow-up.

The analysis herein is not powered to detect statistically significant differences in outcomes. (Lyra Therapeutics, Inc., data on file)

CFBL = Change From Baseline. 4CS = Composite score of 4 cardinal CRS symptoms (nasal blockage, facial pain/pressure, nasal discharge, olfactory loss); (0-3 for each, 12-point scale).

RESCUE TREATMENT

Few additional patients took rescue medications in the post-treatment period

Number of Patients who Received First Rescue Treatment

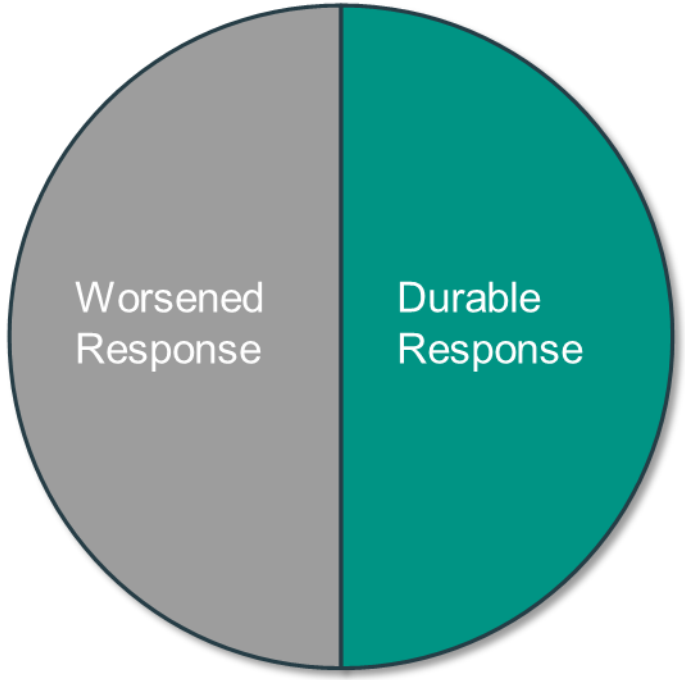
	Treatment Period (Day 1 to Week 24)	Post-treatment Period (Weeks 24-48)	Total
Control N=23	7	2	9
LYR-210 (2500µg) N=23	2	2	4
LYR-210 (7500µg) N=21	1	2	3

Rescue treatment use in the post-treatment period for LYR-210-treated patients started at 1-month post-removal

LANTERN STUDY: POST-TREATMENT PATIENT OUTCOMES

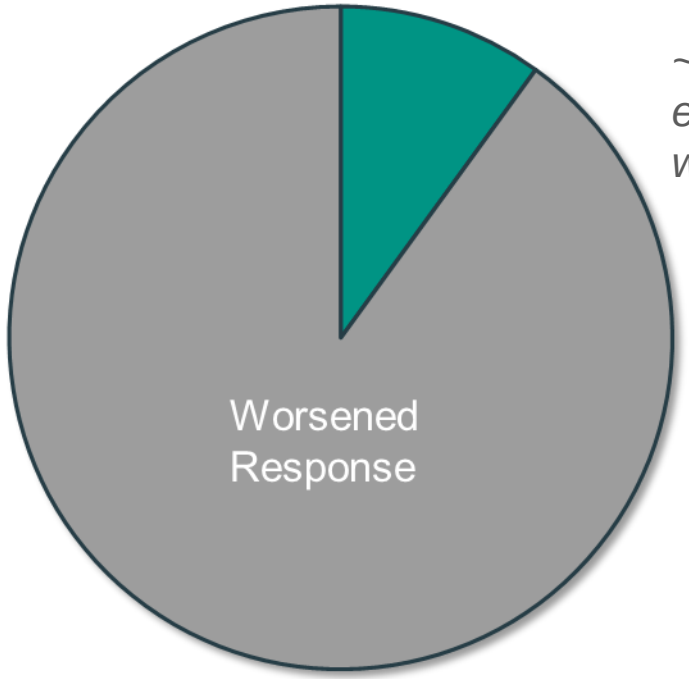
LYR-210 (7500µg)-treated patients experienced a durable response up to 6-months after removal

LYR-210 (7500 µg)



~50% of patients experienced a durable response

Control



~90% of patients experienced a worsened response

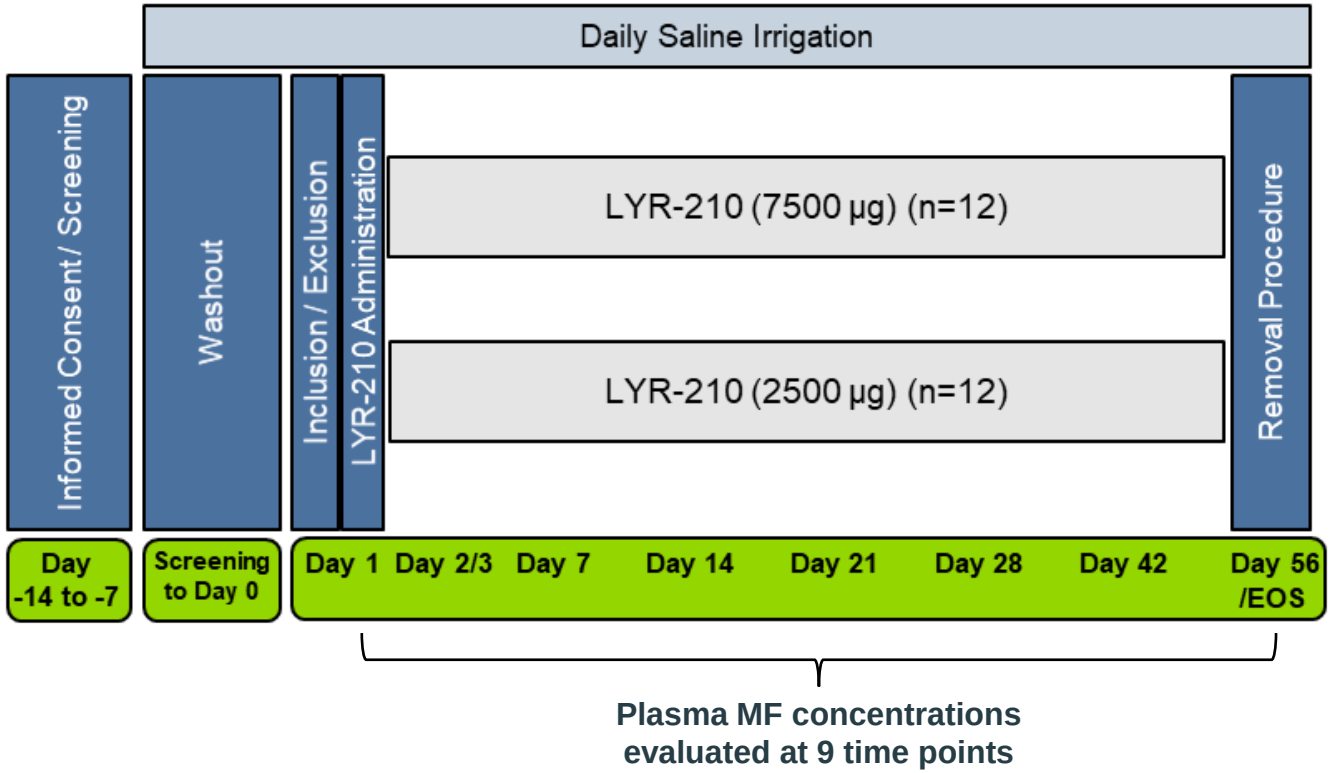
Worsened response = patients experiencing a worsening in 4CS scores from week 24 baseline (at ≥1 time points in the post-treatment period) and patients that required rescue treatment. Durable response = patients experiencing no worsening in 4CS scores from week 24 baseline throughout the post-treatment period. These percentages of patient responses in the post-treatment period represent trends. Analyses are not powered for statistical significance.

4CS = Composite score of 4 cardinal CRS symptoms (nasal blockage, facial pain/pressure, nasal discharge, and olfactory loss)

LYR-210 PK STUDY DATA

PHARMACOKINETIC (PK) CLINICAL STUDY

Study Objective: To characterize the PK profiles of LYR-210 (7500µg) and LYR-210 (2500µg) for up to 56 days.

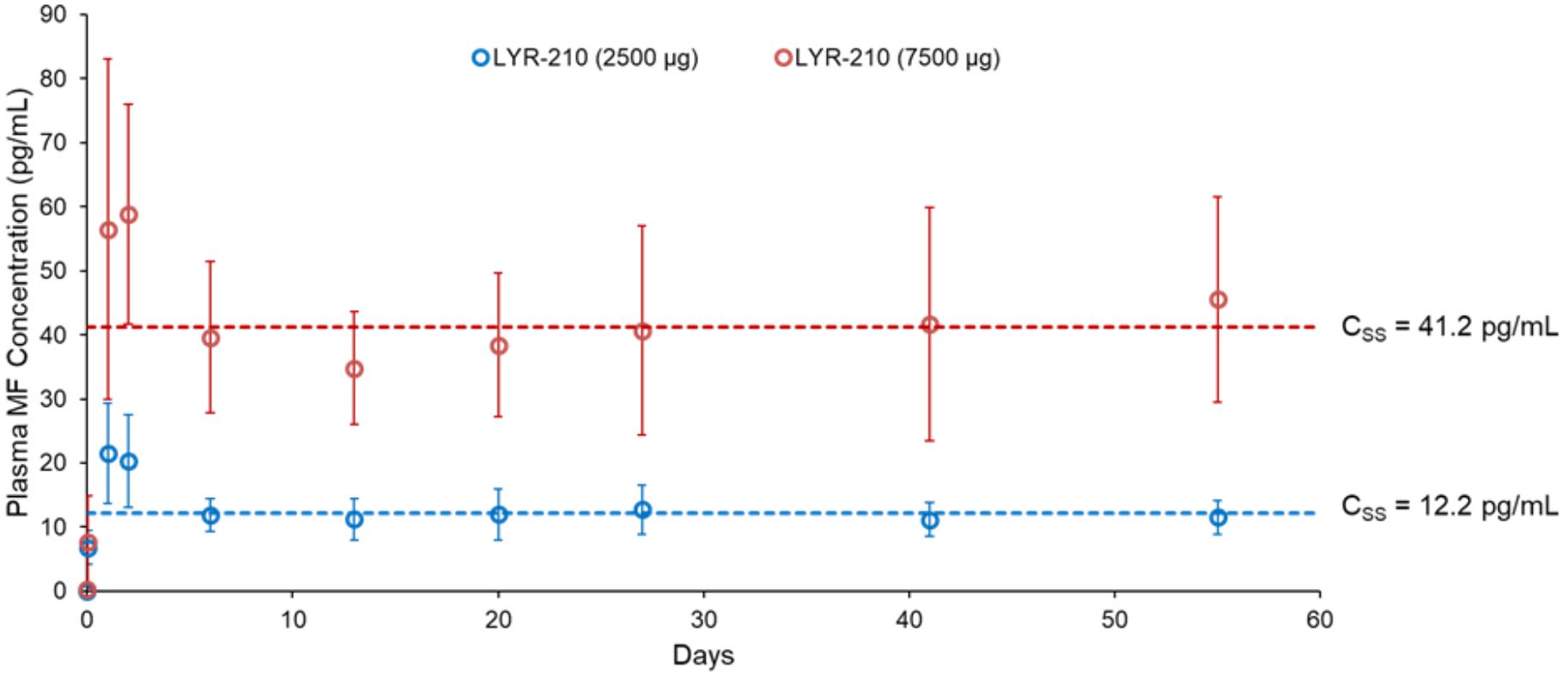


- Open-label, multicenter study
- 24 enrolled subjects, 4 U.S sites
- Study Population: Adults with CRS who have not undergone sinus surgery
- 100% placement success

EOS = End of Study. MF = Mometasone Furoate.

PLASMA MF CONCENTRATIONS

LYR-210 delivered a constant daily dose of MF over 56 days without a drug burst



Data are represented as mean and standard deviation. C_{ss} = Steady State Concentration. MF = Mometasone Furoate.

DRUG RELEASED FROM LYR-210 IN VIVO

Approximately 20% of MF was released from LYR-210 matrices after 8 of the intended 24 weeks of treatment

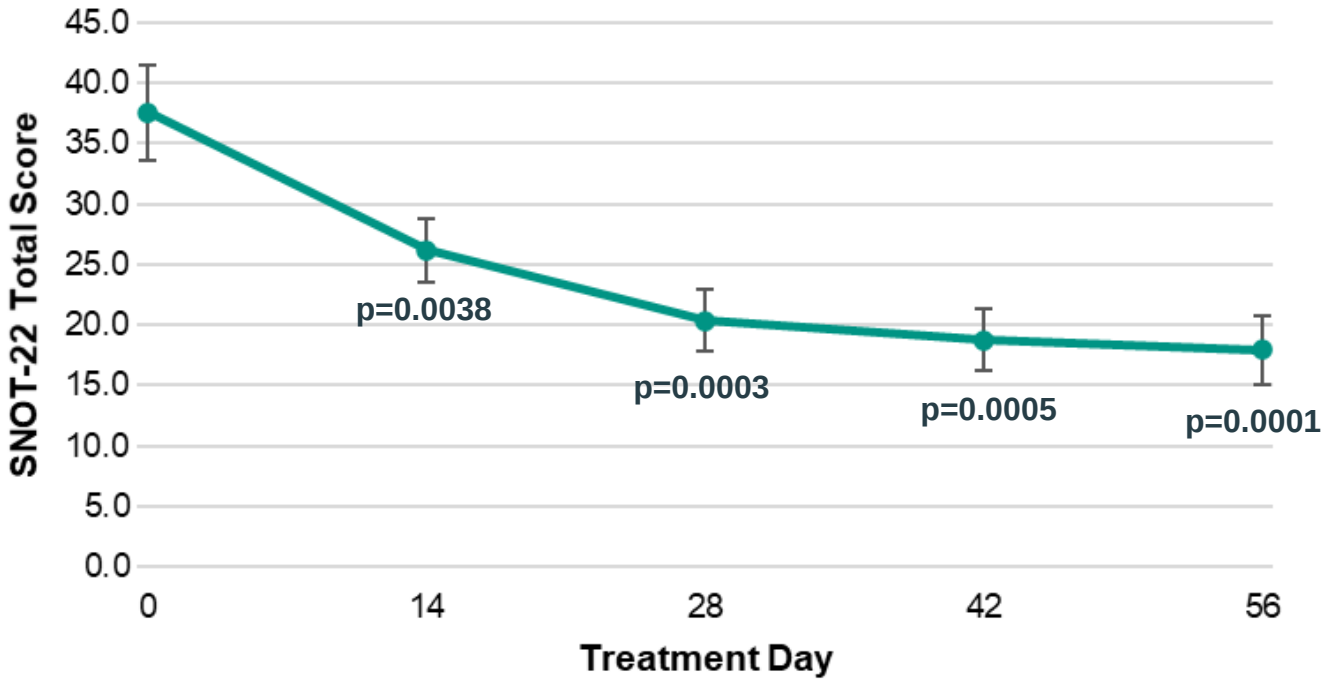
% Total MF Released at Day 56

LYR-210 (2500µg)	18.3 ± 5.2
LYR-210 (7500µg)	19.1 ± 4.7

Values determined by HPLC-UV. MF = Mometasone Furoate.

SNOT-22 – CRS SYMPTOM SCORES

LYR-210 achieved clinically relevant improvement in SNOT-22 within 2 weeks of treatment



37.5% of patients reported a "normal" SNOT-22 score (< 8) on Day 56.

Data are represented as mean and standard error. n=24 patients. P-values represent statistical significance of SNOT-22 total scores relative to baseline. SNOT-22 = 22-item Sinonasal Outcome Test.

ADVERSE EVENTS SUMMARY

LYR-210 was safe and well-tolerated with zero serious adverse events

Event System Organ Class Preferred Term	LYR-210 (2500µg) N=12 n (%)	LYR-210 (7500µg) N=12 n (%)
Injury, Poisoning and Procedural Complications		
Procedural pain	1 (8.3)	2 (16.7)
Nervous System Disorders		
Headache	0	2 (16.7)
Parosmia	2 (16.7)	1 (8.3)
Respiratory, Thoracic and Mediastinal Disorders		
Nasal Odor	0	2 (16.7)
Infections and Infestations		
Sinusitis*	2 (16.7)	1 (8.3)
COVID-19	2 (16.7)	0

Adverse Events (AEs) were coded using Medical dictionary for Regulatory Activities (MedDRA) Version 23.0. Preferred Terms were summarized for AEs reported by more than 1 patient. If a patient reported an AE more than once within that System Organ Class/ Preferred Term, the patient was counted only once for that System Organ Class/ Preferred Term.
* MedDRA Preferred Term for exacerbation/worsening of chronic sinusitis