Impact of long-acting implantable corticosteroid matrices on SNOT-22 subdomains in CRS patients

Anders Cervin, MD, PhD, FRACS

Professor of Otolaryngology

University of Queensland Centre for Clinical Research

Royal Brisbane & Women's Hospital

Herston, Queensland, Australia

ARS at COSM 2022: Dallas, Texas, April 28-29, 2022

DISCLOSURES

- Anders Cervin was a clinical investigator in the LANTERN Phase 2 randomized controlled study

CHRONIC RHINOSINUSITIS (CRS)

New long-acting, local CRS treatment options are needed to improve symptoms and QOL

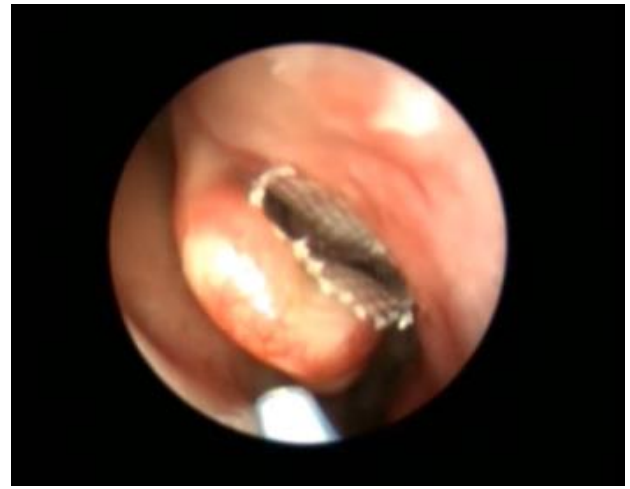
- CRS significantly impacts patients' quality of life (QOL)
  - Fatigue and sleep disruption
  - Mental health (e.g. depression)
  - Work productivity
- First-line intranasal steroid sprays are suboptimal in CRS
  - Inconsistent and insufficient drug dosing deep in the sinonasal passages
  - Rapid clearance rates
  - Poor patient compliance
- Approximately half of CRS patients are uncontrolled by current medical management[1]

[1]Young et al. *Allergy Rhinol (Providence)*. 2012;3(1):e8-e12

LYR-210 FOR CRS

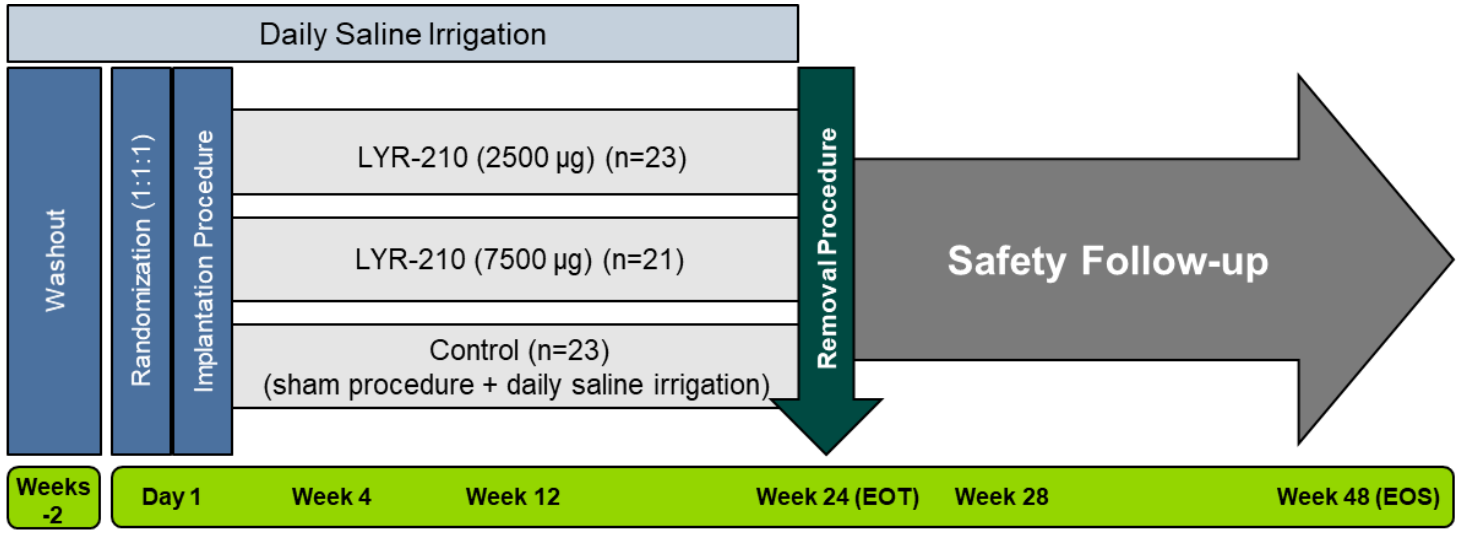
LYR-210 is designed for CRS patients who failed previous medical management

- Biocompatible mesh design for high surface area contact with underlying mucosa
- Steady daily dosing of mometasone furoate (MF) continuously over 24 weeks
- Administered bilaterally in a straightforward, in-office procedure using endoscopic guidance
- Dynamically conforms to the middle meatus and adjusts over time as tissues remodel
- Placement and removal procedure well-tolerated by patients



LANTERN PHASE 2 STUDY DESIGN

Multicenter, blinded, randomized, controlled dose-ranging study



Study enrollment was curtailed to 67 total subjects due to the COVID-19 global pandemic

EOT = End of Treatment; EOS = End of Study

Study Population: Adults with CRS who failed previous medical management and have not undergone FESS

- Approximately half had nasal polyps

Primary Endpoint: Composite of CRS cardinal symptoms*

Secondary Endpoints:

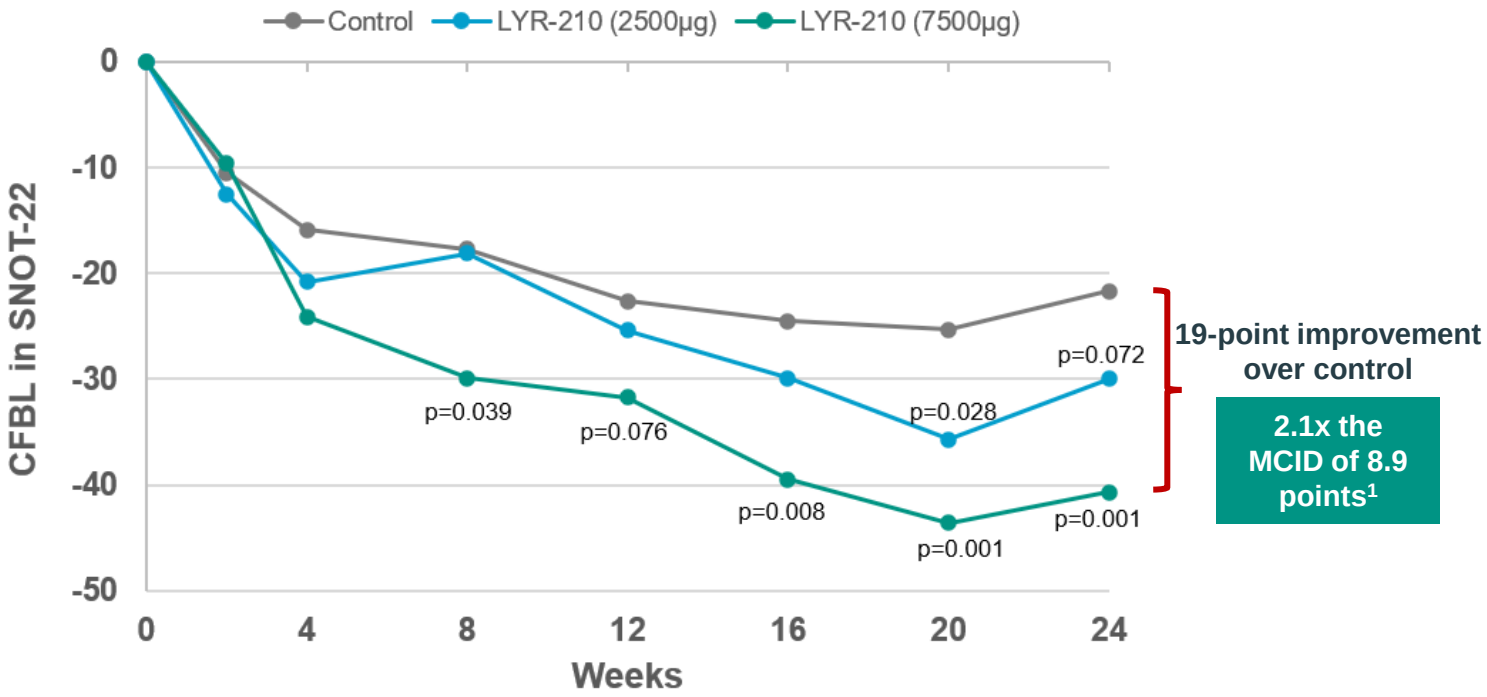
- SNOT-22
- Individual Cardinal Symptoms
- Ethmoid Opacification (MRI)
- Time to first rescue treatment
- Adverse events

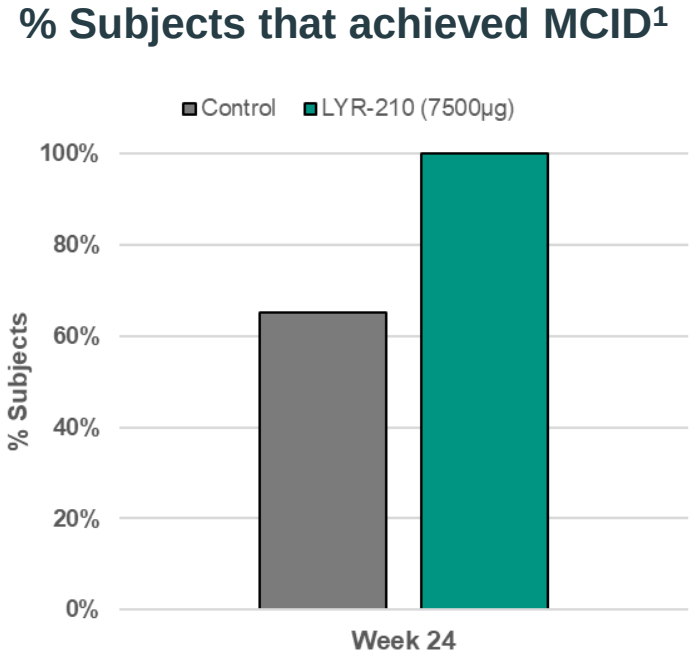
*CRS cardinal symptoms are nasal blockage, facial pain/pressure, nasal discharge, and olfactory loss

LANTERN STUDY: SNOT-22 TOTAL SCORE

LYR-210 achieved rapid, durable, & clinically meaningful improvement over 24 weeks

All polyp and non-polyp subjects administered LYR-210 (7500µg) achieved MCID at Week 24





Mean change from baseline (CFBL) in SNOT-22 total score. Data represents LSM. P<0.05 is considered statistically significant to control. MCID = Minimal Clinically Important Difference.
[1]Hopkins et al., Clinical Otolaryngology 2009, 34, 447–454.

SNOT-22 SUBDOMAINS

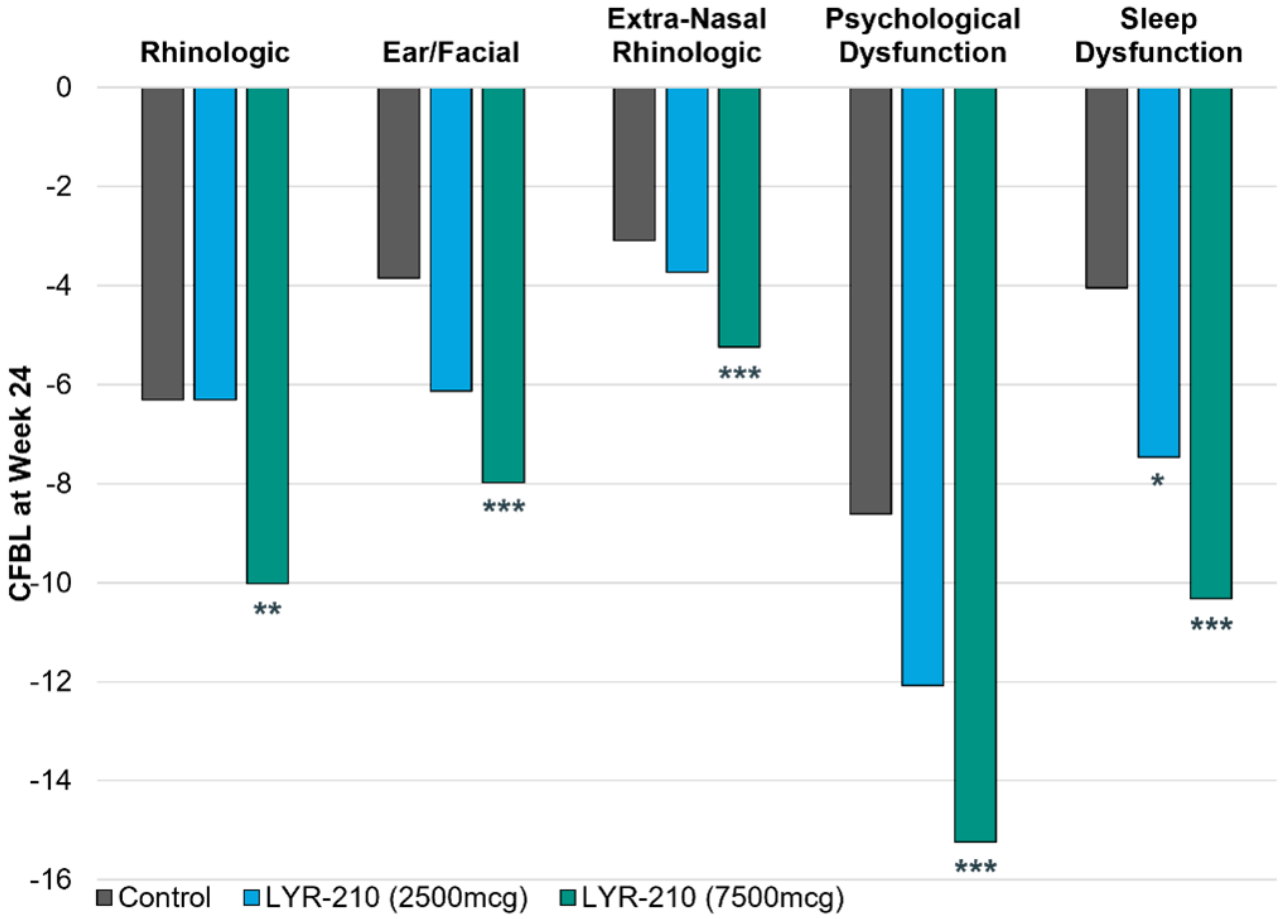
The SNOT-22 consists of 5 subdomains that measure symptoms and social/emotional consequences of CRS

SNOT-22

Rhinologic	Extra-nasal Rhinologic	Ear/Facial	Psychological Dysfunction	Sleep Dysfunction
• Need to blow nose • Nasal blockage • Sneezing • Runny nose • Thick nasal discharge • Decreased sense of smell	• Cough • Post-nasal discharge • Thick nasal discharge	• Sneezing • Ear fullness • Dizziness • Ear pain • Facial pain/pressure	• Waking up tired • Fatigue • Reduced productivity • Reduced concentration • Frustrated/restless/irritable • Sad • Embarrassed	• Difficulty falling asleep • Waking up at night • Lack of a good night's sleep • Waking up tired • Fatigue

IMPACT OF LYR-210 ON SNOT-22 SUBDOMAINS AT WEEK 24

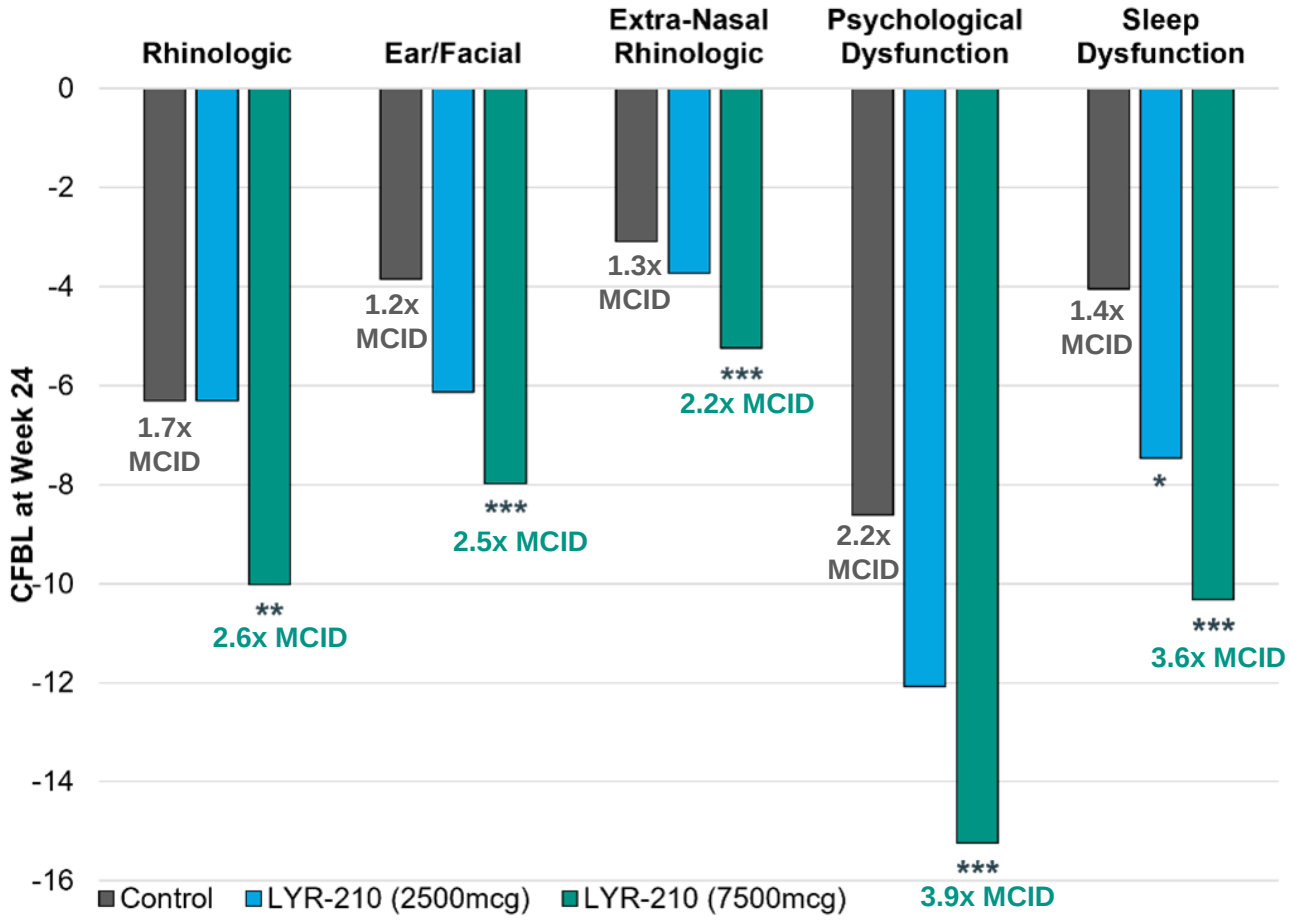
LYR-210 (7500µg) achieved significant improvement in each SNOT-22 subdomain compared to control



Data represents LS Means. *P*-values are 1-sided vs. Control. * $p<0.05$; ** $p<0.025$; *** $p<0.01$.

CLINICALLY MEANINGFUL CHANGES IN SNOT-22 SUBDOMAINS AT WEEK 24

LYR-210 (7500µg) achieved more than 2x the MCID for the CFBL in each SNOT-22 subdomain at week 24



SNOT-22 Subdomain	MCID Value
Rhinologic	3.8
Ear/Facial	3.2
Extra-nasal Rhinologic	2.4
Psychological Dysfunction	3.9
Sleep Dysfunction	2.9

Chowdhury et al. *Int Forum Allergy Rhinol*. 2017;7(12):1149-1155.

CFBL in SNOT-22 subdomain data represents LS Means. *P*-values are 1-sided vs. Control for CFBL in SNOT-22 subdomain (* $p<0.05$; ** $p<0.025$; *** $p<0.01$).

CONCLUSIONS

LYR-210 (7500µg) is a promising long-acting, local anti-inflammatory treatment option for CRS that may also improve patient QOL

- A single administration of LYR-210 (7500µg) provided up to 24 weeks of clinically meaningful improvement in each of the five SNOT-22 subdomains
- Study limitation includes smaller numbers of enrolled LANTERN study subjects than planned due to the COVID-19 pandemic
- LYR-210 (7500µg) is being evaluated in 2 largely replicate Phase 3 trials – ENLIGHTEN I and ENLIGHTEN II