CONTINUOUS STEROID DELIVERY BY LYR-210 IMPROVES SYMPTOMS OF CHRONIC RHINOSINUSITIS

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BACKGROUND

- LYR-210 is a nasal implant that provides continuous delivery of mometasone furoate (MF) for 24 weeks.
- The 4 cardinal symptoms (4CS) of chronic rhinosinusitis (CRS) are nasal blockage, post nasal discharge, facial pain/pressure, and decreased sense of smell.
- A 4CS score focusing on local CRS symptoms, and the SNOT-22 measuring global patient burden, both provide information on the subjective impact of CRS on patients' quality of life.

METHODS

- Twenty surgically naïve CRS subjects (12 CRSsNP, 8 CRSwNP) received 24 weeks of treatment via bilateral middle meatus placement of LYR-210, in a multicenter, open-label study.
- Symptom improvements were evaluated using SNOT-22 week 1 and every 4 weeks over the 24-week treatment duration. The 4CS (from SNOT-22) were compared with SNOT-22 total and domain scores.

ENROLLED CRS PATIENTS EXHIBITED SIGNIFICANT IMPAIRMENT IN BASELINE CARDINAL SYMPTOMS REGARDLESS OF THEIR POLYP STATUS

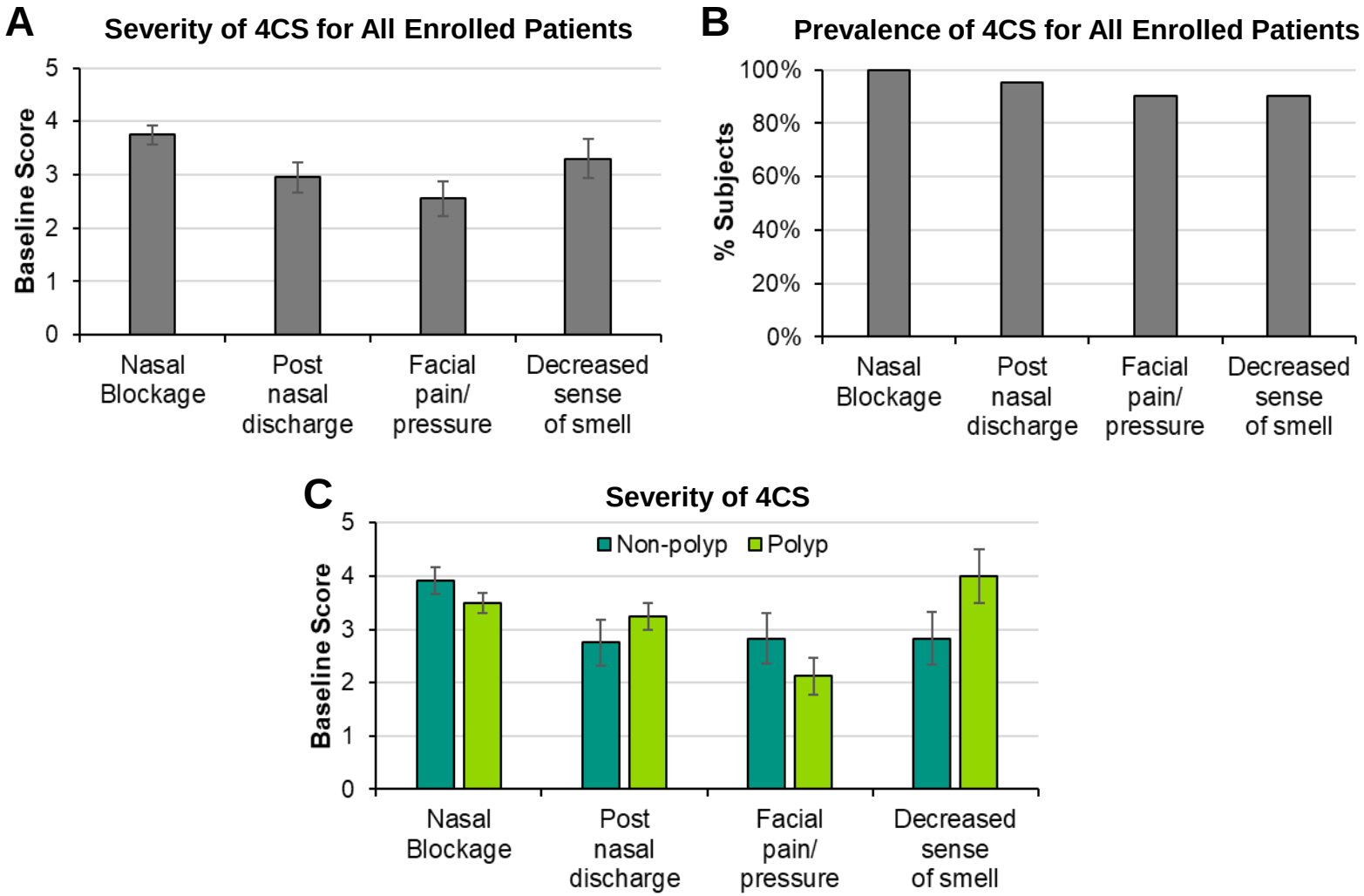

Figure 1. (A) Severity and **(B)** prevalence of baseline 4 cardinal symptoms of CRS in all enrolled subjects (N=20) as measured by the SNOT-22 questionnaire. **(C)** Severity of baseline 4 cardinal symptoms in non-polyp (N=12) and polyp (N=8) subjects.

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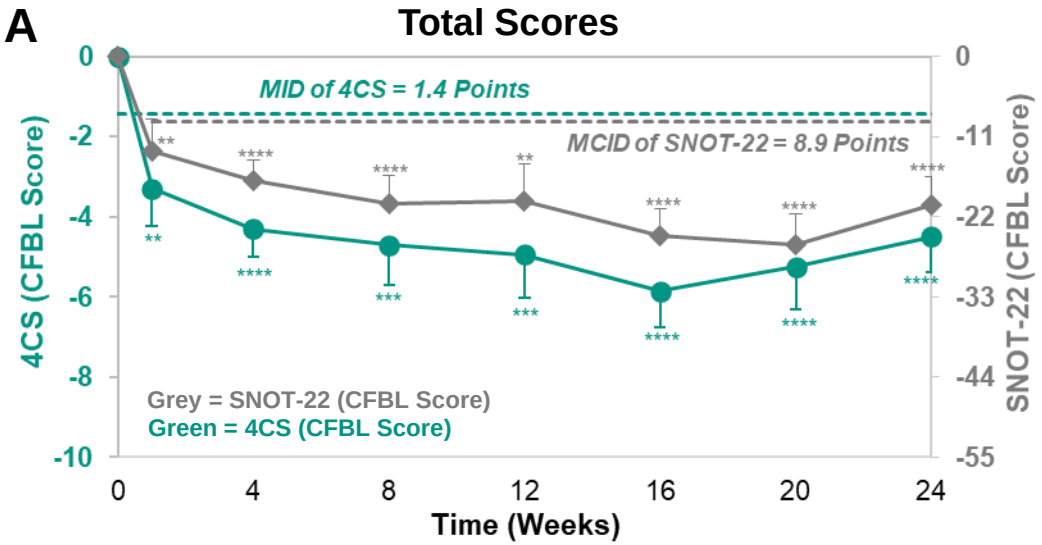
PATIENTS REPORTED RAPID, DURABLE AND CLINICALLY RELEVANT IMPROVEMENT IN BOTH 4CS AND SNOT-22 SCORES OVER 24 WEEKS

A



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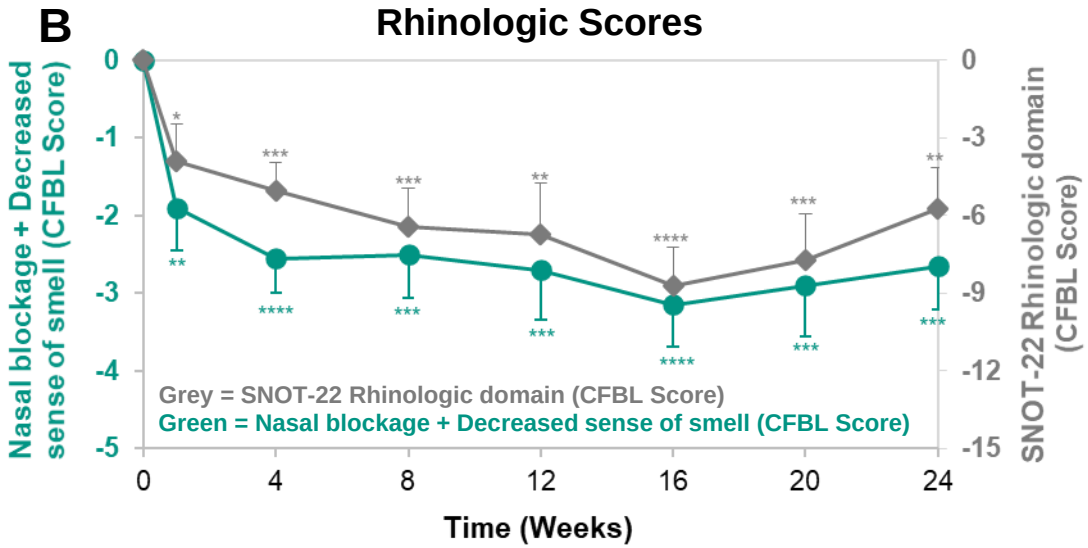

C

Pearson correlation analysis demonstrates 4CS and SNOT-22 scores are strongly correlated through Week 24

	Week 1	Week 4	Week 8	Week 12	Week 16	Week 20	Week 24
4CS Composite vs. SNOT-22 Total	0.90	0.85	0.83	0.88	0.80	0.86	0.80
Nasal blockage + Decreased sense of smell vs. SNOT-22 Rhinologic Domain	0.87	0.60	0.81	0.81	0.75	0.83	0.79
Post nasal discharge vs. SNOT-22 Extra-Nasal Rhinologic Domain	0.80	0.93	0.88	0.88	0.84	0.86	0.83
Facial pain/pressure vs. SNOT-22 Ear-Facial Domain	0.81	0.60	0.69	0.73	0.74	0.81	0.61

Figure 2. Comparison of the mean change from baseline (CFBL) score over 24 weeks in all subjects (N=20) of the **(A)** 4CS composite score vs. SNOT-22 total score, and **(B)** the composite score of nasal blockage and decreased sense of smell vs. SNOT-22 rhinologic domain score. (Graphed data for post nasal discharge score vs. SNOT-22 extra-nasal rhinologic domain score, and the facial pain/pressure score vs. SNOT-22 ear-facial domain score are on file and consistent with (A-B).) The 2 y-axes are equally scaled for the 4CS and SNOT-22 total scores in each graph. The minimally important difference (MID) of 1.4 points for the composite 4CS score is one half the standard deviation of the mean baseline score[1]. The minimal clinically important difference (MCID) of SNOT-22 is derived from published data[2]. *P<0.05, ** P<0.01, *** P<0.001, **** P<0.0001 to baseline by paired two-tailed t test. **(C)** The Pearson correlation *(r values)* between the 4CS and SNOT-22 scores are indicated for weeks 1, 4, 8, 12, 16, 20, and 24 of treatment with LYR-210.

(1) Norman et al. Med Care. 2003;41(5):582-592; (2) Hopkins et al. Clin Otolaryngol. 2009;34(5):447–454

DURABLE IMPROVEMENT AND CONSISTENT CORRELATIONS BETWEEN 4CS AND SNOT-22 OVER 24 WEEKS ARE INDEPENDENT OF POLYP STATUS

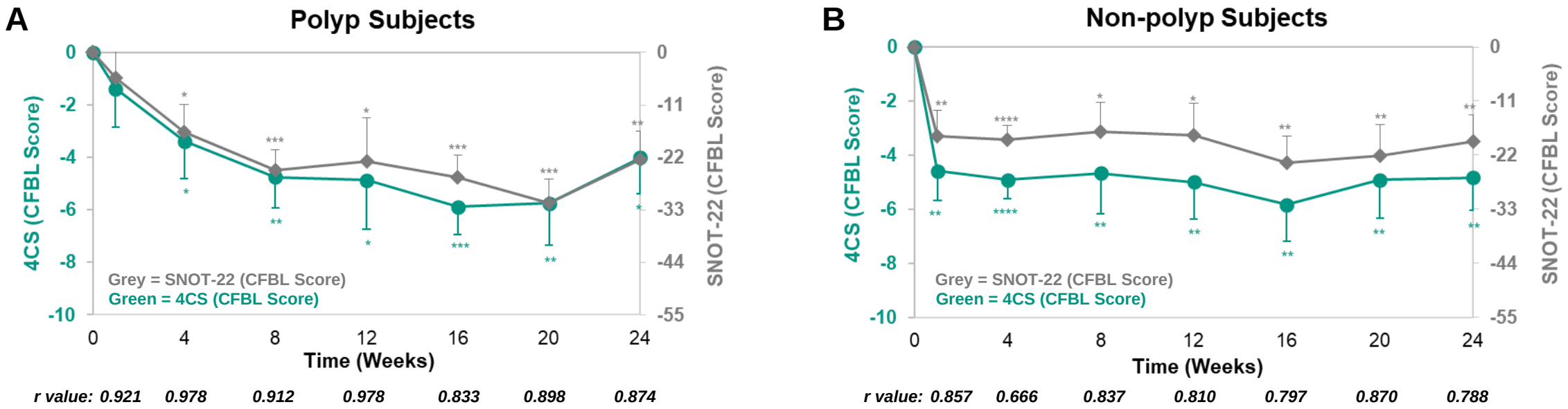

Figure 3. Comparison of the mean change from baseline (CFBL) of the composite score of the 4CS and the SNOT-22 total score over time for **(A)** polyp subjects (N=8) and **(B)** non-polyp subjects (N=12). The 2 y-axes are equally scaled for the 4CS and SNOT-22 total scores in each graph. *P<0.05, ** P<0.01, *** P<0.001, **** P<0.0001 to baseline by paired two-tailed t test. The Pearson correlation (r value) of the 4CS composite score and SNOT-22 total score are indicated at each time point.

CONCLUSIONS

- CRS patients reported rapid, durable and clinically relevant improvement in both the 4 cardinal symptoms and SNOT-22 scores when treated with LYR-210 without adjunctive treatment through 24 weeks.
- The 4CS score strongly correlates with SNOT-22 in the surgically naïve CRS patients treated with LYR-210, independent of polyp status.
- The 4CS score provides a clinically relevant assessment of the impact of a treatment on specific CRS symptoms.