

Observational Study in Children 6 Years and Up who have the R117H or other non-G551D gating mutation (GOAL-OB-11 Expansion)

Summary

These observational cohorts were a part of the expansion of the GOAL-e2 Study (GOAL-OB-11 Expanded and Extended). In these cohorts, data were collected from people with CF who have the R117H and other non-G551D gating CFTR mutations and had never taken ivacaftor (Kalydeco®).

Clinical information (including height, weight, lung function, BMI, sweat chloride, and patient reported outcomes) was collected at four time points during the study: before and one, three, and six months after participants started ivacaftor. Information from the CF Foundation Patient Registry (CFFPR) (including hospitalization and *P. aeruginosa* culture results) was also collected and merged with the clinical data. Additionally, samples (including plasma, serum, buffy coat, urine and sputum) were collected to store and use for future research.

Specimen Information

Status: Specimens are Available

The primary purpose of this study is to collect specimens from patients with the non-G551D gating or R117H mutations who may or may not be prescribed Kalydeco. The specimen collection schedule collects one or two baseline samples (before drug) for those prescribed Kalydeco and 3 after drug samples at varying timepoints.

Visit #	Time From Baseline	Specimens Collected
1	-30 Months	Buffy coat, EDTA plasma, Serum, Urine, Whole blood
2	+0 Days	Buffy coat, EDTA plasma, Serum, Urine, Whole blood
3	+1 Months	Buffy coat, EDTA plasma, Serum, Urine, Whole blood
4	+3 Months	Buffy coat, EDTA plasma, Serum, Urine, Whole blood
5	+6 Months	Buffy coat, EDTA plasma, Serum, Urine, Whole blood

Study Design

Study Type? Observational

Randomized Study? No

Placebo Controlled? No

Length of Participation 6 Months

Number of Study Visits? 5



Additional Information

Phase? Not Applicable

Study Sponsor? Rowe, Steven

Study Drugs? N/A



Eligibility

Age 6 Years and Older

Mutation(s) One Copy F508del or No Copies F508del

FEV1% Predicated No FEV1 Limit

PA Status Not Applicable

Other

Must have following CFTR mutations: For Cohort 2: a) R117H on at least 1 allele b) Any known or unknown mutation on the second allele except G551D For Cohort 3: a) A Non-G551D gating mutation on one allele: (G178R, S549N, S549R, G551S, G970R, G1244E, S1251N, S1255P, G1349D) b) Any known or unknown mutation on the second allele except G551D OR R117H Cannot be participating in the VX-770-105, VX-770-106, VX-770-108, VX-770-110, VX-770-111, VX-770-112, or VX-770-113 study, VX-770 Extended Access Program or use of ivacaftor within 6 months prior to Visit 1.

Study Results

WHAT WE LEARNED:

This study showed people with CF who have the R117H and other non-G551D gating CFTR mutations treated with ivacaftor had significant improvements in lung function, nutritional status, sweat chloride, and patient reported respiratory symptoms when compared to those who were not treated with ivacaftor.

PRIMARY FINDINGS:

SAFETY:

This study was conducted between February 2014 and January 2016. Of the 23 participants enrolled in the study, 21 were prescribed ivacaftor as part of the study and 86% completed the entire study including follow-up. Significant improvements in lung function (as measured by FEV1) were observed after taking ivacaftor at one month (FEV1% increase of 9.3%, $p=0.0011$), at three months (FEV1% increase of 8.4%, $p=0.0214$) and at six months (FEV1% increase of 10.9%, $p=0.0134$). Significant improvements in nutritional status (as measured by BMI and weight) were also seen (mean BMI increase of 1.4 kg/m², $p<0.001$). Similarly, overall sweat chloride significantly decreased throughout the study (1 month= -53.5 mEq/L, $p<0.0001$; 3 months= -51.4 mEq/L, $p<0.0001$; and 6 months= -48.6 mEq/L, $p<0.0001$). Patient reported outcomes (as measured by the CF Questionnaire-Revised) were significantly improved at six months (improvement of 14.2 points, $p=0.0366$).

Extracted from the CFFPR, hospitalizations significantly decreased after participants initiated ivacaftor (rate reduction of 0.71 hospitalizations per participant-year, 95% CI, $p=0.004$). *P. aeruginosa* positive cultures did not show a significant decrease.

CITATION:

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For more information about the results of this study and where it was conducted, visit [ClinicalTrials.gov](https://clinicaltrials.gov).