DIABETES COLLABORATIVE REGISTRY®

Using the Diabetes Collaborative Registry® (DCR) to Estimate the Potential Real-World Impact of the LEADER Trial on Improving Cardiovascular Outcomes in Patients With Diabetes at High Cardiovascular Risk

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BACKGROUND

- The LEADER trial demonstrated beneficial cardiovascular (CV) effects of liraglutide, a glucagon-like peptide 1 receptor agonist (GLP-1 RA) in patients with type 2 diabetes (T2D) and high CV risk.
- We estimated the current use and potential impact of liraglutide, as well as any GLP-1 RA, in patients enrolled in the Diabetes Collaborative Registry® (DCR).
- DCR was formed to understand the quality of diabetes care across the primary and specialty care continuum.

METHODS

- DCR is comprised of primary care, endocrinology, and multispecialty practices in the United States
  - Due to an established IT integration, cardiology sites predominated the initial data sample (>90% of sites).
- Study Population:
  - 184,124 patients with overt T2D across 313 US practices
  - Overt T2D = HbA1c ≥7% or on medications for T2D
- We assessed the percentage of patients in DCR with overt T2D who would have met the main eligibility requirements for the LEADER trial
  - Age ≥50 years and established CV disease
  - CAD (MI, PCI, CABG, stable angina), stroke, TIA, PAD, CHF, or GFR <60 mL/min/1.73 m^2
  - Age ≥60 years and a CV risk factor
  - Hypertension or moderate/severe LV dysfunction (EF <40%)
- We compared patients who were vs. were not treated with a GLP-1 RA
- We then estimated the number of events potentially avoided among the eligible patients using the published absolute risk reductions (both overall and per 100-patient years).
- The most recent visit for each patient was used for analysis

Figure: Eligibility for LEADER in DCR and Use of GLP-1 RA

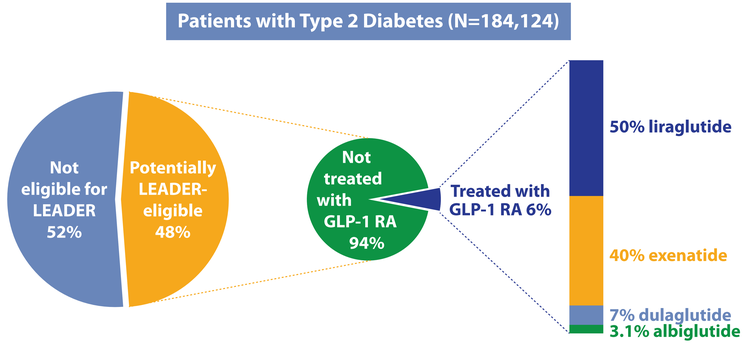

Table 1: Patients Factors

	GLP-1 RA (n=5,249)	No GLP-1 RA (n=82,352)	p-value
Age	66.3 y	70.5 y	<0.001
Male sex	59%	58%	0.51
White race	88%	85%	<0.001
BMI	35.5 kg/m^2	32.3 kg/m^2	<0.001
HbA1c	8.8%	9.0%	<0.001
Hypertension	92%	91%	0.005
Systolic BP	130 mmHg	131 mmHg	0.013
Diastolic BP	74 mmHg	73 mmHg	<0.001
Dyslipidemia	92%	88%	<0.001
CAD	64%	65%	0.013
Prior MI	14%	16%	<0.001
Prior CABG	16%	16%	0.73
Heart failure	27%	30%	<0.001
PAD	22%	23%	0.24
Prior stroke	16%	13%	<0.001
Prior TIA	6.6%	7.4%	0.038
Atrial fibrillation	20%	24%	<0.001
CKD	15%	14%	0.34

Table 2: Possible Events Avoided

	Event Rate (Total)		Event Rate (Annualized)		Potential Events Avoided	
	Drug	Placebo	Drug	Placebo	Total (3.8 y)	Per Year
All cause death	8.2%	9.6%	2.1%	2.5%	1153	329
CV death	4.7%	6.5%	1.2%	1.6%	1482	329
Myocardial infarct	6.3%	7.3%	1.6%	1.9%	824	247

CONCLUSIONS

- In a large US-based outpatient registry of DM patients across the spectrum of primary and specialty care, we found that ~half of outpatients with T2D met the main eligibility criteria for LEADER.
- GLP-1 RA medications are rarely used and tend to be prescribed in lower risk patients (younger, lower burden of CV disease).
- Expanded and better targeted use of liraglutide (or other GLP-1 RA medications, if the CV benefit is found to be a class effect) in eligible patients, particularly those at highest risk for adverse CV outcomes, could significantly reduce CV morbidity/mortality.

DISCLOSURES

- This research was supported by the American College of Cardiology Foundation. Additional organizations partner with ACCF on the Diabetes Collaborative Registry. The views expressed in this abstract represent those of the author(s), and do not necessarily represent the official views of the ACCF or its partnering organizations. Dr. Arnold has no relevant disclosures.
- For more information go to www.thediabetesregistry.org.
- The registry is sponsored by AstraZeneca (Founding Sponsor) and Boehringer Ingelheim Pharmaceuticals, Inc.