Anticipating the Impact of 2019 Guidelines: Use of SGLT2i and GLP–1 RA in Patients with Diabetes and Cardiovascular Disease

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Study Objective: Characterize clinical inertia associated with the adoption of new antidiabetic therapies in the treatment of patients with diabetes and cardiovascular disease (CVD) using a large, clinical database

Methods

Study Design: Retrospective descriptive analysis in the EHR database

Population Studied: 3.6 million patients aged 18–75 receiving care 2012–2018 in primary care, endocrinology, cardiology, nephrology, and/or pulmonology

Methodology: Uptake of Therapies: Three cohorts of ~350,000 patients with T2DM observed for existing or new Rx of GLP-1 RA, SGLT2i, or DPP-4i during three 36-month periods ending Q1 of 2016, 2017, and 2018.

Definitions: Three criteria for clinical inertia were defined (data not shown): (1) no GLP-1 RA and/or SGLT2i added and/or no Rx change despite HbA1c ≥7.0% or CVD diagnosis, (2) ≥2 ambulatory visits in 18 months (CVD status), and (3) ≥3 ambulatory visits in 18 months (CVD status).

Figure 1. Uptake of New Therapies: Overall Approach

Figure 2. T2D Patients with CVD and CVD, by Age Group

Figure 3. T2DM patients with RX for GLP-1 RA, SGL T2i, or DPP-4i by CVD status

Diabetes and CVD Prevalence

• 3.6 million patients, across 20 AMGA member health systems participating in TogetherGo®17; AMGA national campaign to improve care for patients with T2DM (April 1, 2017 to March 31, 2018)

• 13.7% with ≥1 CVD diagnosis; 6.4% with ≥2 CVD diagnoses and/or nephrology (≥ 2 ambulatory visits in 18 months) in 20 health systems.

• In 12/2008, FDA mandated long-term cardiovascular outcomes trials (CVOTs) for approval of new drugs.

• From 2005 to 2013, FDA approved DPP-4i, GLP-1 RA, and SGL T2i for the treatment of T2DM.

• Anticipating the Impact of 2019 Guidelines: (Among All T2DM Patients)

• ~65% of all patients with T2DM were prescribed a combination of ≥ 2 medications.

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• Uptake of Therapies: Three cohorts of ~350,000 patients with T2DM observed for existing or new Rx of novel anti-diabetic agents, i.e., GLP-1 RA, SGLT2i, DPP-4i; during three 36-month periods ending Q1 of 2016, 2017, and 2018.

• Prescribing of GLP-1 RAs and SGL T2is (as of early 2018) fell short of current expectations for treatment guidelines.

• Potential clinical inertia (as of early 2018) increased among patients with T2DM and CVD compared to patients with T2DM and not CVD

• In 2018Q1, 37% of patients with T2DM and CVD had no new Rx for T2DM for 6 months after an A1c ≥8.0

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• Given the current climate of treatment guidelines for T2DM and CVD, it is imperative to identify potential areas of clinical inertia and potential strategies for improvement.

Figure 4. Preportion of patients with new Rx for GLP-1 RA, SGLT2i, or DPP-4i by CVD status (in each of three T2DM measurement periods)

Figure 5. Potential clinical inertia among patients with T2DM and CVD, with A1c ≥8.0 and/or medication regimen excluding DPP-4i, GLP-1 RA, SGLT2i, and/or insulin (2018Q1)

Reference

About AMGA

AMGA is the principal trade association representing the majority of medical groups and integrated delivery networks in the United States. We represent nearly 250,000 physicians, 25% of all physicians in the U.S. with approximately 168 million patient encounters each year.

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Clinical Inertia in the Adoption of New Guidelines

(Among T2DM Patients Indicated (A1c ≥ 8.0 for Intensification))

Figure 6. Uptake of Therapies: Three cohorts of ~350,000 patients with T2DM observed for existing or new Rx of novel anti-diabetic agents, i.e., GLP-1 RA, SGLT2i, DPP-4i; during three 36-month periods ending Q1 of 2016, 2017, and 2018.

Conclusions

In this analysis, the introduction of new antidiabetic drugs was associated with the general uptake of new therapies, the initial reaction to research, and the publication of new treatment guidelines.

Implications

Prescribing patterns may require substantial change to conform to current ADA Standards of Care.