AACE Guidelines and non-insulin therapies

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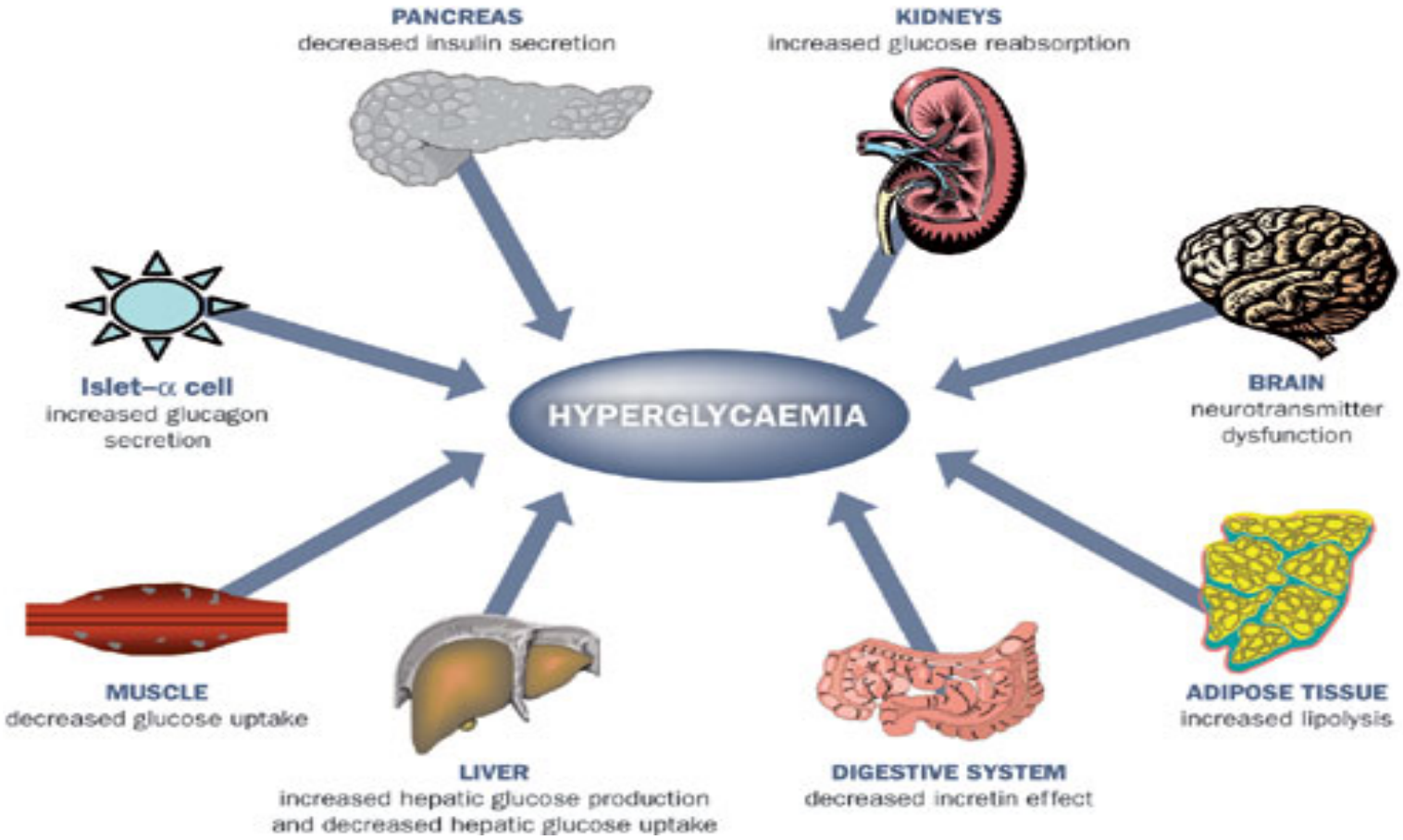
Objectives

- Discuss DM 2 Disease Process
- Discuss Position of AACE in Treatment of DM 2
- Review the AACE Glycemic Control Algorithm
- Overview Role of all Oral Agents
- Focus on Newest Classes of Oral Agents
- Discuss Cost Saving Strategies for Patients
- Review Case Study Practicing Principles of AACE Algorithm

Diabetes Progression



www.diabetes.org/diabetes-basics/diabetes-statistics, 2010

Position of AACE

- Lifestyle modification and education are essential
  - Diet and exercise, 5-7% weight loss
- A1C target must be individualized
  - <6.5 still optimal if safe
- Minimizing hypoglycemia and weight gain is a priority
  - Safety, compliance, and cost
- Choice of medications must be individualized
  - Risk of weight gain, hypoglycemia

Position of AACE

- Safety and efficacy is highest priority over initial cost of medication
- Effectiveness of treatment should be monitored frequently
  - At least every 3 months
    - SMBG, A1C, side effects, cost
  - Monitor for microvascular and cardiovascular complications
    - Monofilament
    - Mircoablumin
    - Lipid panel

Principles of the AACE Algorithm for the Treatment of DM 2, 2015

Glycemic Control Algorithm

LIFESTYLE MODIFICATION
(Including Medically Assisted Weight Loss)

Entry A1c < 7.5%

MONOTHERAPY*

- ✓ Metformin
- ✓ GLP-1 RA
- ✓ SGLT-2i
- ✓ DPP-4i
- ✓ AGi
- ⚠ TZD
- ⚠ SU/GLN

If not at goal in 3 months proceed to Double Therapy

Entry A1c ≥ 7.5%

DUAL THERAPY*

MET or other 1st-line agent +

- ✓ GLP-1 RA
- ✓ SGLT-2i
- ✓ DPP-4i
- ⚠ TZD
- ⚠ Basal Insulin
- ✓ Colesevelam
- ✓ Bromocriptine QR
- ✓ AGi
- ⚠ SU/GLN

If not at goal in 3 months proceed to Triple Therapy

TRIPLE THERAPY*

MET or other 1st-line agent + 2nd-line agent +

- ✓ GLP-1 RA
- ✓ SGLT-2i
- ⚠ TZD
- ⚠ Basal insulin
- ✓ DPP-4i
- ✓ Colesevelam
- ✓ Bromocriptine QR
- ✓ AGi
- ⚠ SU/GLN

If not at goal in 3 months proceed to or intensify insulin therapy

Entry A1c > 9.0%

SYMPTOMS

NO	YES
DUAL Therapy OR TRIPLE Therapy	INSULIN ± Other Agents

ADD OR INTENSIFY INSULIN
Refer to Insulin Algorithm

LEGEND
- ✓ Few adverse events or possible benefits
- ⚠ Use with caution

* Order of medications listed represents a suggested hierarchy of usage

PROGRESSION OF DISEASE

Classification of Oral Agents

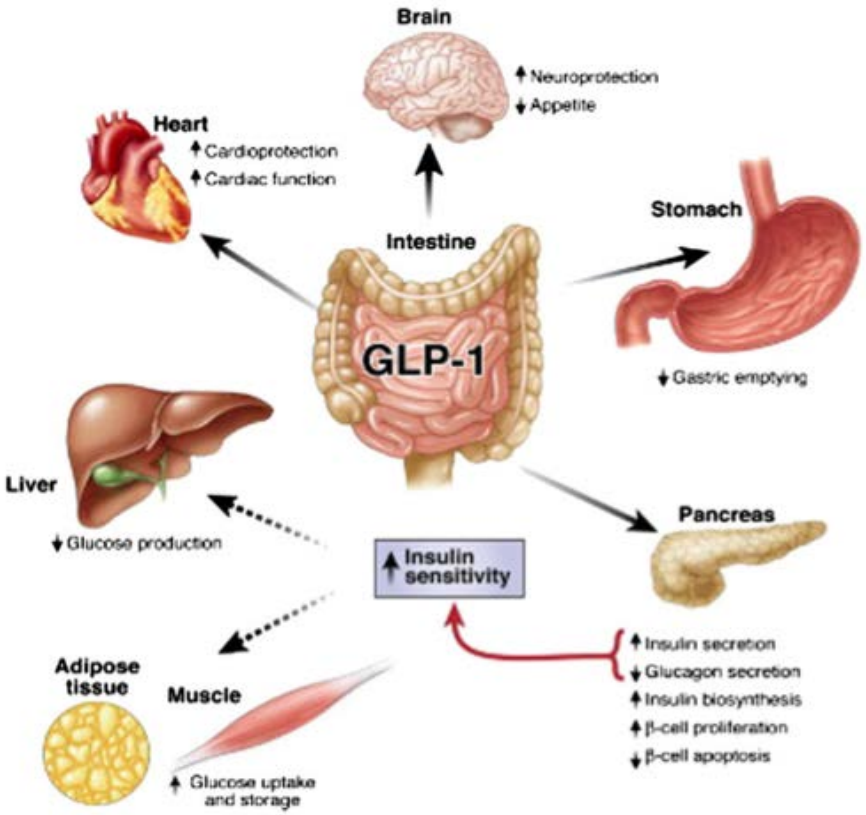
- Biguanides
  - metformin
- Sulfonylureas/Meglitinides-
  - Glipizide, glimepiride
  - Prandin, Starlix
- Thiazolidinediones
  - Actos
- DPP-4 inhibitors
  - Tradjenta, Onglyza, Januvia
- GLP-1 agonists
  - Byetta, Victoza, Bydureon, Trulicity, Tanzeum
- SGLTs
  - Invokana, Jardiance, Farxiga

DPP-4(Dipeptidyl Peptidase-4)Inhibitor

- Benefits
  - Incretin effect- oral glucose increased insulin secretion greater than IV
  - DPP- 4 -inhibits breakdown of GLP-1 (gut hormone)
    - Augment the endogenous GLP-1
  - Reduction in A1C of 0.5 to 0.8%
  - Weight neutral- doesn't pass blood brain barrier
- Precautions
  - Reduce dose in renal insufficiency- except Tradjenta
  - Pancreatitis (rare)
- Side Effects- generally well tolerated
  - URI, HA, and nasopharyngitis

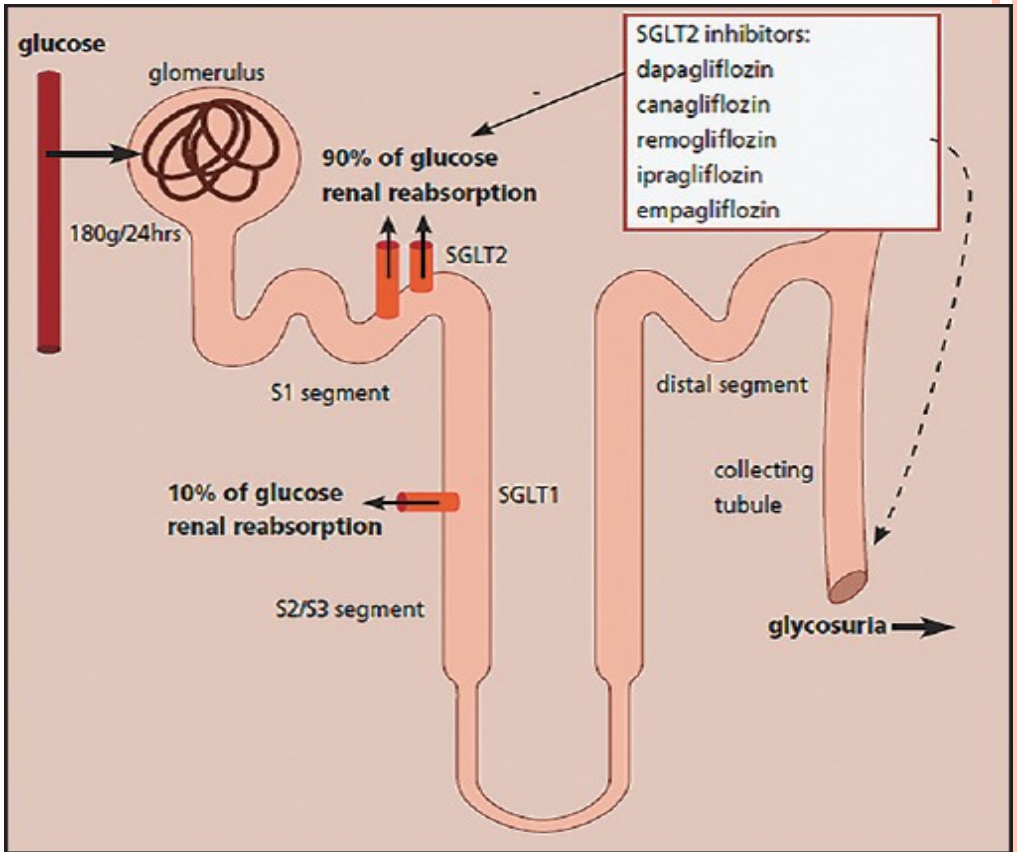
GLP-1(Glucagon-Like Peptide)- Analog

- Benefits- gut hormone involved in incretin effect
  - Should be used first or second line due to weight loss potential and benefits of glucose reduction as well as prevent B-cell death
- Precautions
  - pancreatitis
  - gastroparesis
  - hx of bowel obstruction
  - medullary thyroid CA
- Side Effects
  - n/v, abdominal pain



SGLT2 (Na-glucose cotransporter 2 inhibitor)

- Benefits-
  - reduces glucose reabsorption
  - increasing urinary glucose excretion
- Precautions
  - GFR <45
  - Hypotension
  - hyperkalemia risk
- Side Effects
  - Acute kidney injury
  - Hyperkalemia- ACEI
  - Orthostatic BP
  - UTI/Candidiasis

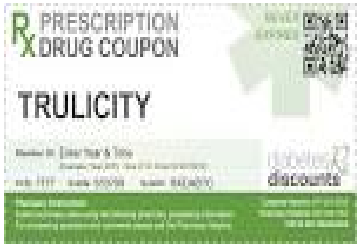


Financial Resources for patients

- Coupon Cards
- Samples
- Patient Assistance Programs
  - Boehringer Ingelheim Cares Foundation
  - Cornerstones4Care, Novo
- We have to get creative

Boehringer Ingelheim Cares Foundation ...more health

Cornerstones4Care®



Case Study

- 34 yr old male lives in group home setting with 15 yr history of DM2. A1C >14, BMI >35.
  - Had failed metformin, SU, and TZD
  - Meter download showed two readings in two weeks both >350
  - Was taking fixed dose of Rapid Acting Insulin/Split basal dosing
  - Then referred to CDE who increased both basal and bolus doses and eventually switched to u-500

Case Study- Part B

- He has extensive history of mental illness, his health aide was available twice a day (8 AM and 8 PM), he had been omitting his insulin at least 2 times daily, he drank sugared soda throughout the day, Medicaid insurance

- Barriers
  - Mental Illness
  - Complexity of regimen
  - Lack of Patient Success

- Any thoughts of what you might do?

Case Study- treatment plan

- Diet Modification
  - Limit Carbohydrates
    - 15 gm for breakfast, 30 gm for lunch, and 45 gm for supper
- Stopped U-500
- Started Lantus at 0.2 mg per kg once daily at HS
- Started Victoza 0.6 mg daily for 3 days then increased to 1.2 mg daily on day 4
- Invokana 100 mg every morning
- Continued metformin
- Follow up 1 week
  - He called at 4:30 PM
- May consider Rapids Acting Correction Scale