Diabetes – Diabetes: Bring your problem cases

Disclosures

- Speaker: Ting-Yu Wang, MDCM, FRCPC, Msc
- Endocrinologist:
  - St-Jean-sur-Richelieu
  - Hôpital Chinois de Montréal
  - LMC Glen
- Disclosures:
  - Advisory board/Conferences : Amgen, Astra Zeneca, Eli Lilly/Boehringer Ingelheim, Insulet, Janssen, Merck, Novo Nordisk, Sanofi-Aventis, Valeant
  - Research: Eli lilly, novo nordisk, sanofi-aventis

- My COI is not related to the topic I will be talking about
- Despite my COI my presentation will be strictly scientific and will not be influenced by any commercial interests. Slides were created by myself.

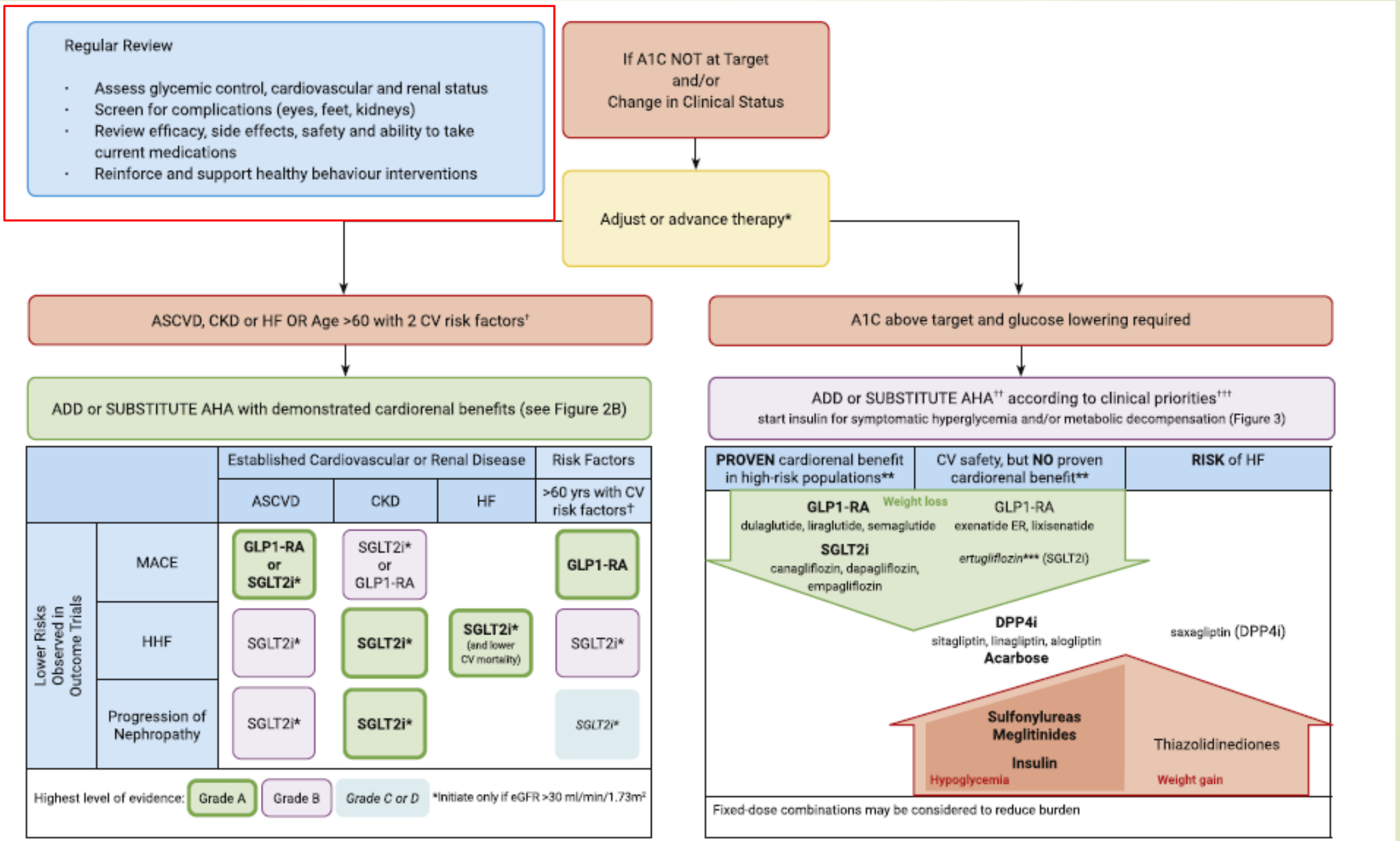
Objectives

- As a result of attending this session, participants will be able to:
  - Explore the different modalities of treatment in type 2 diabetes with respect to the new Diabetes Canada guidelines
  - Discuss the CV risk protection in people with type 2 diabetes
  - Reflect on the current practice and identify opportunities to help optimise the care to patients – BRING IN YOUR PROBLEM CASES!!!

Mr A

- 55M DM2 x 2010 recently moved to Montreal, and is visiting you for the first time
- PMH: None except DM2
- Meds:
  - Metformin 1000mg po bid
- Habits: smokes 0.5 ppd, occ EtOH
- Physical exam:
  - BMI 29.5
  - BP 138/75
- Labs:
  - A1c 7.5%
  - Creat 70, eGFR over 60
  - LDL 1.8
  - Alb/creat 1.0

What next?

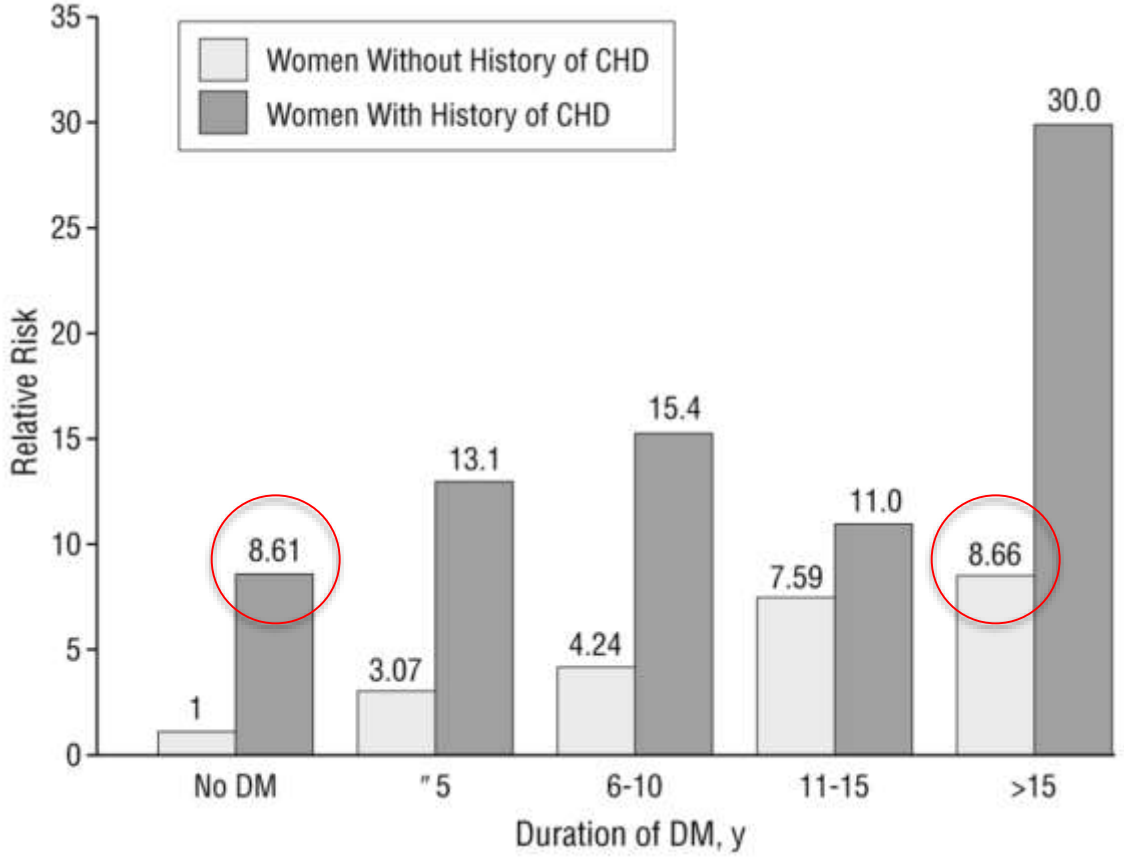

Regular Review
Assess glycemic control, cardiovascular and renal status
Screen for complications (eyes, feet, kidneys)
Review efficacy, side effects, safety and ability to take current medications
Reinforce and support healthy behaviour interventions
If A1C NOT at Target and/or Change in Clinical Status
Adjust or advance therapy*
ASCVD, CKD or HF OR Age >60 with 2 CV risk factors†
ADD or SUBSTITUTE AHA with demonstrated cardiorenal benefits (see Figure 2B)
Established Cardiovascular or Renal Disease
Risk Factors
ASCVD
CKD
HF
>60 yrs with CV risk factors†
Lower Risks Observed in Outcome Trials
MACE
HHF
Progression of Nephropathy
GLP1-RA or SGLT2i*
SGLT2i* or GLP1-RA
GLP1-RA
SGLT2i*
SGLT2i*
SGLT2i* (and lower CV mortality)
SGLT2i*
SGLT2i*
SGLT2i*
SGLT2i*
Highest level of evidence: Grade A Grade B Grade C or D
*Initiate only if eGFR >30 ml/min/1.73m²
A1C above target and glucose lowering required
ADD or SUBSTITUTE AHA†† according to clinical priorities†††
start insulin for symptomatic hyperglycemia and/or metabolic decompensation (Figure 3)
PROVEN cardiorenal benefit in high-risk populations**
CV safety, but NO proven cardiorenal benefit**
RISK of HF
GLP1-RA
Weight loss
dulaglutide, liraglutide, semaglutide
GLP1-RA
exenatide ER, lixisenatide
SGLT2i
canagliflozin, dapagliflozin, empagliflozin
ertugliflozin*** (SGLT2i)
DPP4i
sitagliptin, linagliptin, alogliptin
saxagliptin (DPP4i)
Acarbose
Sulfonylureas
Meglitinides
Insulin
Hypoglycemia
Thiazolidinediones
Weight gain
Fixed-dose combinations may be considered to reduce burden

Vascular Protection Checklist

- ✓A • A1C – optimal glycemic control (usually ≤7%)
- ✓B • BP – optimal blood pressure control (<130/80)
- ✓C • Cholesterol – LDL-C < 2.0 mmol/L or >50% reduction if treatment indicated
- ✓D • Drugs to protect the heart
  - A – ACEi or ARB | S – Statin | A – ASA if indicated | SGLT2i / GLP-1RA with demonstrated CV benefit if type 2 DM with CVD and A1C not at target
- ✓E • Exercise / Healthy Eating
- ✓S • Smoking cessation

ACEi, angiotensin converting enzyme inhibitor; *ARB*, angiotension receptor blocker; *CV*, cardiovascular; *CVD*, cardiovascular disease; *DM*, diabetes mellitus

Type 2 Diabetes for >15 Years Duration Confers a Similar Risk of Fatal CHD as Prior CHD and No Diabetes



20 year follow-up of 121,046 women aged 30 to 55 years in Nurses' Health Study

Hu F, et al. Arch Intern Med. 2001;161:1717-1723.
CHD, coronary heart disease

Cardiovascular protective medications

- Statins
- ACE-inhibitors or Angiotensin receptor blockers (ARB)
- Certain antihyperglycemic agents
- ASA selective use

Who Should Receive Statins?

(regardless of baseline LDL-C)

- **Clinical CVD** *or*
- **Age ≥40 yrs** *or*
- **Microvascular complications** *or*
- **Diabetes >15 yrs duration and age >30 yr** *or*
- **Warrants therapy** based on the *2016 Canadian Cardiovascular Society Guidelines for the Diagnosis and Treatment of Dyslipidemia*

Among women with childbearing potential, statins should only be used in the presence of proper preconception counselling & reliable contraception. Stop statins prior to conception.

CVD, cardiovascular disease

What if baseline LDL-C <2.0 mmol/L?

- Irrespective of initial LDL-C
  - Patients obtain similar benefit
- If a person with diabetes qualifies for statins;
  - <2.0 mmol/L;
  - Target reduction of ≥50% in LDL-C

HPS *Lancet* 2002;360:7-22
Colhoun HM, et al. *Lancet* 2004;364:685

Cardiovascular protective medications

- Statins
- ACE-inhibitors or Angiotensin receptor blockers (ARB)
- Certain antihyperglycemic agents
- ASA selective use

Who Should Receive ACEi or ARB Therapy?

(regardless of baseline blood pressure)

- **Clinical CVD**
- **Age ≥55 years with an additional CV risk factor or end organ damage** (albuminuria, retinopathy, left ventricular hypertrophy)
- **Microvascular complications**

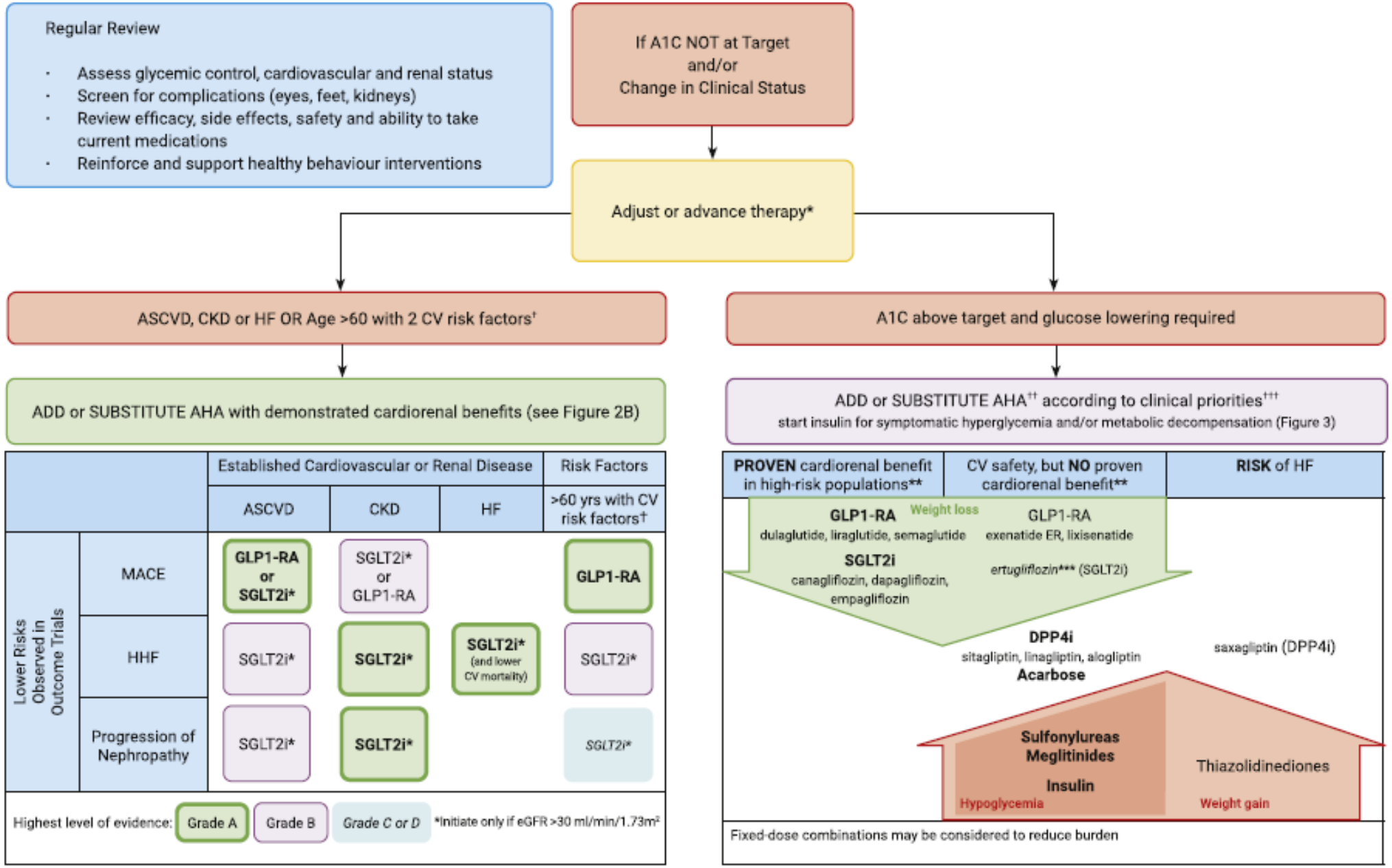
At doses that have shown vascular protection [perindopril 8 mg daily (EUROPA), ramipril 10 mg daily (HOPE), telmisartan 80 mg daily (ONTARGET)]

Among women with childbearing potential, ACEi or ARB should only be used in the presence of proper preconception counselling & reliable contraception. Stop ACEi or ARB either prior to conception or immediately upon detection of pregnancy.

EUROPA Investigators, Lancet 2003;362(9386):782-788.
HOPE study investigators. *Lancet*. 2000;355:253-59.
ONTARGET study investigators. *NEJM*. 2008:358:1547-59

Cardiovascular protective medications

- Statins
- ACE-inhibitors or Angiotensin receptor blockers (ARB)
- Certain antihyperglycemic agents
- ASA selective use



Cardiovascular protective medications

- Statins
- ACE-inhibitors or Angiotensin receptor blockers (ARB)
- Certain antihyperglycemic agents
- ASA selective use

ASA Not Routinely Recommended for 1º Prevention of CVD Among People with Diabetes

Insufficient evidence to support use of ASA for primary prevention

Risk of bleeding  CVD protection

CVD, cardiovascular disease

Vascular Protection Checklist

- ✓A • A1C – optimal glycemic control (usually ≤7%)
- ✓B • BP – optimal blood pressure control (<130/80)
- ✓C • Cholesterol – LDL-C < 2.0 mmol/L or >50% reduction if treatment indicated
- ✓D • Drugs to protect the heart
  - A – ACEi or ARB | S – Statin | A – ASA if indicated | SGLT2i / GLP-1RA with demonstrated CV benefit if type 2 DM with CVD and A1C not at target
- ✓E • Exercise / Healthy Eating
- ✓S • Smoking cessation

ACEi, angiotensin converting enzyme inhibitor; *ARB*, angiotension receptor blocker; *CV*, cardiovascular; *CVD*, cardiovascular disease; *DM*, diabetes mellitus

Mr A

- 55M DM2 x 2010 recently moved to Montreal, and is visiting you for the first time
- PMH: None except DM2
- Meds:
  - Metformin 1000mg po bid
- Habits: smokes 0.5 ppd, occ EtOH
- Physical exam:
  - BMI 29.5
  - BP 138/75
- Labs:
  - A1c 7.5%
  - Creat 70, eGFR over 60
  - LDL 1.8
  - Alb/creat 1.0

What next?

Case discussion

Questions?