

Goodfellow Unit Diabetes Webinar 16th Feb

Dr Ryan Paul Endocrinologist (Waikato) (as interpreted by BS)

New diabetes medications, guidelines and best practice

Empagliflozin is a recently funded SGLT2 medication

This drug has been shown to reduce CV and Renal Mortality in T2DM independent of its effects on Glycaemic control.

Doesn't prevent CV or Renal change (no primary prevention effect) but significant secondary prevention

Doesn't cause hypoglycaemia unless used with insulin or sulfonylureas

Causes weight loss in T2DM

Action – Osmotic diuresis and glycosuria (pee out more glucose)

Side effects mainly due to this action

Polyuria

Increased GU infection (esp fungal) good genital skin hygiene necessary

Increased UTI in some

Dehydration esp in over 75 yr old, esp if used with diuretic ACEI or ARBs

Fourniers gangrene – v rare only a few cases in the world but look out for unusual or severe genital or perineal pain

DKA Diabetic keto acidosis (may be normoglycaemic)

Stop SGLT2 when acutely unwell with any illness – Sick day management and plan is important

Stop SGLT2 two days before elective procedures

Don't use in type 1 diabetes

If worried about DKA need ketone level done - will need to come into surgery for blood ketone level (if any sickness of concern)

Empagliflozin can (should) be used with metformin

Can be used with Insulin and Sulfonylureas

If HBA1C < 64 reduce insulin 15 – 20 % reduce SU by 50%

Not for use in Pregnancy – Breast feeding

< 18 yrs

eGFR < 30

previous severe recurrent GU infection

Renal calculi

Start 10mg once daily or 5mg bid with metformin

Review 3/12 – Bp HBA1C, eGFR

Guidelines T2DM management

General

The emphasis has moved away from strict Glycaemic control to include CV and Renal outcomes – as most diabetes fatalities are from CV and renal complications

(Health pathways guidelines currently not up to date but NZSSD guidelines are)

HBA1C target needs to be individualized but aim for < 53

If HBA1C > 90 initially unlikely to get to target without insulin

Monitoring – check HBA1C 3 monthly until at target then 6 monthly

Don't use aspirin as primary prevention – increases bleeding risk

First Line - Lifestyle Management and Metformin

Start metformin low – 250mg once daily and move up to maximum dose of 1g bid – Metformin will reduce HBA1C by around 16 points so if HBA1C is very high to start with consider starting a second agent early

Second line – Gliptin or SGLT2

Use SGLT2 in T2DM with renal disease or CV disease, irrespective of glycaemic control (but won't be funded if HBA1C under 53)

Use SGLT2 for T2DM without CV or renal disease if HBA1C up esp if overweight

If can't use SGLT2 or is not funded (under SA) use gliptin.

Both Empagliflozin and Vildagliptin have combination tablets including Metformin. Experience shows that these combination tablets are

smaller than standard metformin tabs and are much better tolerated than metformin on its own.

Vildagliptin in combination with metformin will delay the need for insulin

Is especially good in over 75 yrs age and if eGFR <30

If ALT goes up by 2.5x normal, then stop

Sulphonylureas are now considered 3rd or 4th line treatment for T2D

Cause wt gain and hypoglycaemia

No reduction in CV or renal disease on sulphonylureas

Insulin

If using basal insulin (Lantus) once you get over 0.5mg/kg/day, then you will get increased wt gain so should consider adding prandial insulin at this point

Metformin, Empagliflozin, Vildagliptin

Do not cause hypoglycaemia so do not need BSL monitoring

At Risk groups

Maori and Pacifica

3 – 5 times the rate of T2D of European

Renal failure rate is 10 – 12 x European

CVD is 1.5 x European

Younger age of onset by 10 to 15 yrs

Average time to complications from onset is 20 yrs

So, act early in these groups

