NHS
West Hampshire
Clinical Commissioning Group

Medicines Optimisation intervention brief

Medicines Optimisation Incentive Scheme 2019/20
Cost saving intervention

TITLE?
CS2.3.5 Alogliptin as 1st line dipeptidylpeptidase-4 (DPP-4) inhibitor ('gliptin')
WHAT?
• Review the continued need for a gliptin (ensure only used in accordance with best practice criteria). • If appropriate, switch from an existing gliptin (linagliptin, saxagliptin, vildagliptin) to alogliptin. • Consider alogliptin as a first line gliptin on grounds of cost-effectiveness.
WHY?
• Alogliptin is the fifth gliptin licensed in the UK for use in type 2 diabetes and is 20% less expensive than the others. • Although there is no evidence for greater efficacy of alogliptin over the currently available gliptins, it has no serious safety concerns and similar tolerability to other oral hypoglycaemic drugs. • NICE recommends that the lowest-acquisition-cost gliptin should be chosen. • Annual spend on gliptins in England is over £180 million (ePACT February 2019). • Annual spend on gliptins in WHCCG is £1.5 million per annum. • Estimated saving for WHCCG by using alogliptin first-line is more than £130,000 per annum.
WHO?
• All patients prescribed a non-monotherapy gliptin (efficacy review), especially a non-formulary gliptin (efficacy and formulary choice review) • All patients who have not had the desired response to gliptin therapy (i.e. efficacy review) • All patients currently prescribed a gliptin in combination with a GLP-1 or insulin (unnecessary duplication) • All new patients who are being considered for gliptin therapy (formulary choice)
TIPS?

• Search for patients who have not had the desired response to gliptin therapy, with a view to stopping the gliptin
• Search for patients who are co-prescribed a gliptin and one of the following agents (with a view to stopping the gliptin):
  ○ **GLP-1** (exenatide, lixisenatide, liraglutide, dulaglutide, semaglutide). GLP-1s and gliptins work on the same pathway, where GLP-1's are resistant to gliptin breakdown already.
  ○ **Mixed insulins** (e.g. Novomix 30, Humalog Mix 25 or 50, Humulin M3, Insuman comb 15/25/50). Gliptins increase insulin levels and decrease glucagon levels post-prandially so their activity is supressed and limited if prandial insulin is administered.
  ○ **Rapid-acting insulins** (e.g Novorapid, Humalog, Apidra, FiASP, Humulin S, Actrapid, Insuman Rapid). As above, the activity of the gliptin is supressed and limited if prandial insulin is administered. Occasionally a patient may be on a small dose of rapid insulin once daily with food. These patients may still benefit from a gliptin being taken at another time of the day as a 'booster'.
• Linagliptin should be reserved for patients with unstable renal function because it does not require dose adjustment. If the dose of gliptin would have required changing due to a fluctuating eGFR over the past 12 months, exclude these patients from a switch to alogliptin.
• In renal impairment where the renal function is stable, alogliptin may still be suitable at a lower dose (see

below for dosing).

- Heart failure: cardiovascular outcome trials amongst gliptins have shown similar cardiovascular neutrality when compared with placebo. However, there were differences with increased rates of hospitalisation for heart failure between gliptins. Saxagliptin and alogliptin are cautioned in patients with known heart failure and therefore, sitagliptin or linagliptin are preferred agents if a gliptin is indicated in a patient with pre-existing heart failure.

HOW?

- Run standard searches to identify patients on dual and triple therapy combinations including a gliptin
  - report recent HbA1c and serum creatinine
  - report other diabetic medications and previous alogliptin therapy
- Consider if the patient would benefit from a diabetes review in practice for example if HbA1c is raised > 75mmol/mol
- Check whether HbA1c level was reduced by at least 5mmol/mol (0.5%) 6 months after gliptin initiation.
- Consider a diabetes review of therapy and possible deprescribing of the gliptin if a 5mmol/mol drop has not been achieved or if the gliptin is co-prescribed with an agent that suppresses its activity, as above.
- If the gliptin is to be continued, consider a switch from existing vildagliptin, linagliptin and saxagliptin therapy to alogliptin (or alogliptin/ metformin combinations) within licensed indications. NB: There is currently no significant cost advantage in switching sitagliptin to alogliptin due to financial rebates available on the former.
- Exclude the following patients:
  - Prescribed a gliptin as monotherapy (alogliptin is not licensed as monotherapy)
  - Previous intolerance or treatment failure to alogliptin
  - Type 1 diabetes
  - Severe hepatic impairment
  - Pregnancy and breast feeding
  - Under the age of 18
  - Heart Failure diagnosis or currently prescribed a loop diuretic such as furosemide or bumetanide
  - Unstable renal function – see tips for further advice
- Switching dosage equivalence: the following should serve as a guide; patients with renal impairment should be considered separately (see below). Reading across the rows gives the approximate dose equivalent switch:

Alogliptin	Linagliptin	Saxagliptin	Sitagliptin	Vildagliptin
25mg Once daily	5mg Once daily	5mg Once daily	100mg Once daily	50mg Twice daily

- Reduce alogliptin dosage in renal impairment
  - Reduce dose to 12.5mg daily if creatinine clearance ≥ 30 to ≤ 50 mL/min
  - Reduce dose to 6.25mg daily if creatinine clearance < 30 mL/min
- This switch should not cause any marked change in diabetes control.
- Patients should be followed up with an HbA1c three months after therapy change, as per best practice.

SO WHAT?

- Potential savings realised.
- Improved patient care, reduction of polypharmacy and deprescribing of inappropriate medications

FURTHER INFORMATION

- Summary of Product Characteristics for Vipidia (alogliptin) https://www.medicines.org.uk/emc/product/5235/smpc
- Evidence review: An update on the gliptins. Compiled for the Basingstoke, Southampton and Winchester District Prescribing Committee, May 2018
- http://www.somersetccg.nhs.uk/EasySiteWeb/GatewayLink.aspx?alId=4494