GP NURSE PHARMACIST

Multidisciplinary management of type 2 diabetes

Injectable therapy options for T2D: Which patients may benefit?

Insulin and glucagon-like peptide-1 receptor agonists (GLP-1 RAs) are effective injectable blood glucose-lowering options for the treatment of adults with type 2 diabetes (T2D).[1]

The role and use of these agents, potential barriers surrounding their use, and scenarios when an injectable therapy may not be appropriate, are discussed in this infographic for primary healthcare professionals (HCPs).

Indications for injectable glucose-lowering therapy in T2D

Who may benefit from insulin treatment?

- NICE lists insulin as a 3rd line add-on option, if HbA_{1c} rises to 58 mmol/mol (7.5%) despite dual oral therapy in people with T2D[2]
- Insulin should also be considered as a 'rescue therapy' at any phase of treatment if a person with T2D is symptomatically hyperglycaemic[2]
- If a woman with T2D wishes to become pregnant, NICE recommends switching from all glucose-lowering therapies other than metformin to insulin[3]

Who may benefit from GLP-1 RA treatment?

- NICE lists GLP-1 RAs as a 3rd line add-on option, if HbA_{1c} rises to 58 mmol/mol (7.5%) despite dual oral therapy in people with T2D who have:
  - A BMI ≥35kg/m² (or BMI adjusted for ethnic background) and obesity-related psychological or other medical problems associated with obesity; or
  - A BMI <35kg/m² where insulin therapy would have significant occupational implications or weight loss would benefit other significant obesity-related comorbidities[2]

Understanding barriers to injectable therapy in T2D

What can prevent patients or their HCPs from initiating injectable therapy?

Patient barriers include:[4]

- Fear of hypoglycaemia
- Weight gain concerns
- Needle or injection phobia
- Inconvenience and complexity of regimen

HCP barriers include:[4]

- Clinical inertia
- Time and resource constraints (e.g. for device training)
- Assumption that patient prefers oral therapy
- Lack of awareness of injectable therapy and device options

Choosing an injectable regimen in T2D

What patient features should be considered before initiating a GLP-1 RA or insulin-based treatment in T2D?

BMI: Would treatment-related weight gain increase risk for comorbidities and complications?

Current glycaemic control: Should the new regimen target elevated fasting blood glucose, postprandial glucose, or both?

Preferences: Does the person have concerns about therapy? (e.g. risk of hypoglycaemia, weight gain)

Age and HbA_{1c} target: Do the benefits of the regimen outweigh its potential risks?

Ability to self-inject: With training, will the person be able use an injection device independently? Is active dose titration needed?

Occupational issues: Will an injectable regimen prevent the person from driving or operating equipment at work?

Blood glucose monitoring: Will the person need ongoing self-monitoring of blood glucose?

Mealtimes and lifestyle: Is frequent dosing needed? Are mealtimes regular? Is dose timing flexible?

Stopping, or switching from, an injectable therapy in T2D

Time for review

Are there scenarios when it is appropriate to consider stopping, or switching from, an injectable therapy in T2D?

- If symptomatic hyperglycaemia has been treated with insulin as a 'rescue therapy', review the need for this treatment once glucose control has been achieved[2]
- After 6 months of GLP-1 RA therapy, if there hasn't been a HbA_{1c} reduction of 11 mmol/mol (1%) and weight loss of 3%, this treatment should be stopped[2]
- If a person experiences tolerability issues on an injectable therapy (e.g. gastrointestinal adverse effects on a GLP-1 RA or recurrent hypoglycaemia on insulin), review whether the dose and/or regimen should be changed
- Following bariatric surgery in obese patients with T2D, insulin may no longer be required if glycaemic control has normalised[5]

If a person with T2D is offered an alternative therapy to insulin or a GLP-1 RA, ensure that the choice of drug is individualised to their needs and preferences[1,2]

References

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4. Ross SA (2013) *Am J Med* **126** (Suppl 1): S38–48
5. Ardestani A et al (2015) *Diabetes Care* **38:** 659–64

OmniaMed SB — THE SPECIALISTS IN DIABETES EDUCATION

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▼ABASAGLAR® CARTRIDGE and KWIKPEN™ UNITED KINGDOM PRESCRIBING INFORMATION ABASAGLAR IS INSULIN GLARGINE (human insulin analogue)

Presentation: Abasaglar is a clear, colourless, sterile solution of 100 units/ml (equivalent to 3.64mg) insulin glargine (rDNA origin), available as either 3ml cartridge or 3ml KwikPen. Each cartridge/pen contains 300 units of insulin glargine in 3ml solution. **Uses:** Treatment of diabetes mellitus in adults, adolescents, and children aged 2 years and above. **Dosage and Administration:** The dose regimen (dose and timing) should be individually adjusted. In patients with Type 2 diabetes mellitus, Abasaglar can also be given together with orally active antidiabetic medication. Abasaglar has a prolonged duration of action, and should be administered once daily at any time, but at the same time each day. It should only be given by subcutaneous injection and should not be administered intravenously. Injection sites must be rotated within a given injection area from one injection to the next. Abasaglar must not be mixed with any other insulin or diluted. When switching from another intermediate or long- acting insulin treatment regimen to Abasaglar, a change of the dose of the basal insulin may be required and the concomitant antidiabetic treatment may need to be adjusted (dose and timing of additional regular insulins or fast-acting insulin analogues, or the dose of oral antidiabetic medicinal products). To reduce the risk of nocturnal and early morning hypoglycaemia, patients who are changing their basal insulin regimen from a twice daily NPH insulin to a once daily regimen with Abasaglar should reduce their daily dose of basal insulin by 20-30 % during the first weeks of treatment. Abasaglar and Toujeo (insulin glargine 300 units/ml) are not bioequivalent and are not directly interchangeable. To reduce the risk of hypoglycemia, patients who are changing their basal insulin regimen from an insulin regimen with once daily insulin glargine 300 units/ml to a once daily regimen with Abasaglar should reduce their dose by approximately 20%. During the first weeks the reduction should, at least partially, be compensated by an increase in mealtime insulin, after this period the regimen should be adjusted individually. Close metabolic monitoring is recommended during the switch and in the initial weeks thereafter. **Contra-indications:** Hypersensitivity to insulin glargine or any of the excipients. **Warnings and Special Precautions:** Abasaglar is not the insulin of choice for the treatment of diabetic ketoacidosis. In case of insufficient glucose control, or tendency to hyper- or hypoglycaemic episodes, other relevant factors must be reviewed before dose adjustment is considered. Transferring a patient to another type or brand of insulin should be done under strict medical supervision. Changes in strength, brand, type, origin, and/or method of manufacture may result in the need for a change in dose. In rare cases, insulin antibodies may necessitate dose adjustment. The time of occurrence of hypoglycaemia may change when the insulin regimen is changed, depending on the action profile of the insulins used. Caution and intensified glucose monitoring are advised in patients for whom hypoglycaemia might be of particular clinical relevance. Patients should be aware that warning symptoms of hypoglycaemia may be changed, less pronounced, or absent in certain circumstances, including: markedly improved glycaemic control; when hypoglycaemia develops gradually; in the elderly; after transfer from animal to human insulin; autonomic neuropathy; long history of diabetes; psychiatric illness; use of certain medications such as beta-blockers. This may result in severe hypoglycaemia. The prolonged effect of insulin glargine may delay recovery from hypoglycaemia. If HbA_{1c} is low, consider possibility of recurrent, unrecognised hypoglycaemia. Adherence of the patient to the dose and dietary regimen, correct insulin administration, and awareness of hypoglycaemia symptoms are essential to reduce risk of hypoglycaemia. Factors increasing risk of hypoglycaemia require particularly close monitoring and may necessitate dose adjustment. Intercurrent illness requires intensified monitoring. Testing for ketones and dose adjustment may be necessary. Patients with Type 1 diabetes must continue to consume at least small amounts of carbohydrate and must never omit insulin entirely. The cartridges should only be used in a Lilly reusable insulin pen. The insulin label must always be checked before each injection to avoid medication errors. Cases of cardiac failure have been reported when pioglitazone was used in combination with insulin. If the combination is used, patients should be observed for signs and symptoms of heart failure and pioglitazone discontinued if any deterioration occurs. **Fertility, Pregnancy and Lactation:** No clinical data from controlled studies are available. Data from >1,000 pregnancy outcomes indicate no specific adverse effects of insulin glargine on pregnancy and no specific malformative nor feto/neonatal toxicity. The use of Abasaglar may be considered during pregnancy, if necessary. Insulin requirements may decrease during the first trimester and generally increase during the second and third trimesters. Immediately after delivery, insulin requirements decline rapidly. Careful monitoring of glucose control is essential. **Effects on ability to drive and use machines:** The patient's ability to concentrate and react may be impaired as a result of hypo- or hyperglycaemia, or visual impairment. This may constitute a risk in situations where these abilities are of special importance (eg, driving a car or operating machines). **Undesirable Effects:** Hypoglycaemia is very common. Injection site reactions and lipohypertrophy are common. Immediate-type allergic reactions are rare, but may be life-threatening. For full details of these and other side-effects, please see the Summary of Product Characteristics, which is available at http://www.medicines.org.uk/emc/. **Legal Category:** POM **Marketing Authorisation Numbers:** EU/1/14/944/003 EU/1/14/944/012 Cost £35.28 - 5 X 3ml cartridges £35.28 - 5 X 3ml KwikPens (80 Units) **Date of Preparation or Last Review:** February 2017 **Full Prescribing Information is Available From:** Eli Lilly and Company Limited Lilly House, Priestley Road Basingstoke, Hampshire, RG24 9NL Telephone: Basingstoke (01256) 315 000 E-mail: ukmedinfo@lilly.com Website: www.lillypro.co.uk ABASAGLAR® (insulin glargine) is a registered trademark of Eli Lilly and Company. KWIKPEN™ is a trademark of Eli Lilly and Company.

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