Guidance for the Prescribing of Octreotide injection (Amber-G)

Introduction

This document sets out the guidance for the assessment and treatment with octreotide of malignant bowel obstruction not treatable by surgery or oncology measures by a consultant in palliative medicine when care is initiated in secondary care and transferred to primary care for continuation.

This document should provide clear guidance to the GP and hospital prescriber, regarding procedures to be adopted when clinical (and therefore treatment and financial) responsibility for a patient on octreotide is shared between primary and secondary care.

The decision to start a patient on octreotide with malignant bowel obstruction should be taken by a Consultant in Palliative Medicine with prescribing transferred to GPs only when the patient is on a stable regime.

Recommendation amber with guidance

Background Information

The use of octreotide is well established in specialist palliative medicine

Indications

- Relief of symptoms associated with functional gastroenteropancreatic (GEP) endocrine tumours (e.g. carcinoid, VIPomas, glucagonomas).
- Anti-secretory effect:
    - Large-volume vomiting associated with inoperable, malignant bowel obstruction
    - Intractable diarrhoea
    - Bronchorrhoea
    - Ascites
    - Rectal discharge

Pharmacology

Octreotide is a synthetic analogue of somatostatin with a longer duration of action. Somatostatin is an inhibitory hormone found throughout the body. It reduces splanchnic blood flow, portal blood flow, gastro-intestinal motility, gastric, pancreatic and small bowel secretion, and increases water and electrolyte absorption.

In patients with cancer and inoperable bowel obstruction, octreotide can rapidly improves symptoms. Although doses up to 1500microgram/24 hours daily have been used, a beneficial effect is generally apparent with 600 to 800microgram daily (in 75-90% of patients[1]).

Octreotide is generally given as a bolus SC or by continuous subcutaneous infusion (CSCI). It can be given IV when a rapid effect is required [not covered by shared care arrangements].

Onset of action 30min.
Time to peak plasma concentration 30min SC.
Plasma half-life 1.5hours SC.
Duration of action 8hours.

Cautions

Serious drug interactions

Octreotide markedly reduces plasma **ciclosporin** concentrations and inadequate immunosuppression may result. Patients concurrently receiving ciclosporin would need specialist input regarding a dose increase plus additional monitoring. Patients on ciclosporin are specifically excluded from this shared care arrangement.

Insulinoma (may potentiate hypoglycaemia). In Type 1 diabetes mellitus, **insulin** requirements may be reduced by up to 50%; monitor plasma glucose concentrations to guide any dose reduction needed with **insulin** or oral hypoglycaemic agents. The handover of diabetic patients will occur only after their anti-diabetic medications have been reviewed.

Undesirable effects

For full list, see manufacturers' SmPC via www.medicines.org.uk
Bolus injection SC is painful (but less if the vial is warmed to room temperature), dry mouth, flatulence (lowers oesophageal sphincter tone), anorexia, nausea, vomiting, abdominal pain, diarrhoea, steatorrhoea, impaired glucose tolerance, hypoglycaemia (shortly after starting treatment), persistent hyperglycaemia (during long-term treatment), gallstones (10–20% of patients on long-term treatment), pancreatitis (associated with gallstones).

Cirrhosis. Octreotide may cause gallstones.

Hepatic impairment: dose reduction may be required.

Monitor thyroid function during long-term treatment (may cause hypothyroidism).

Dose and prescribing

Some of the recommendations are based on experience with only a small number of patients, so the dose should always be titrated according to effect.

Doses start at 250-500mcg/24h and increase in steps of 250mcg/day every few days up to 1500mcg/24hours via syringe driver. Patients on daily doses above 1500mcg will be managed by the consultant.

Once improvement in the symptom is achieved, reduction to the lowest dose that maintains symptom control can be tried.

For malignant bowel obstruction, octreotide is often prescribed alongside anti-emetics, dexamethasone and softening aperients, to contribute to good symptom control.

If symptom control is maintained, and the patient remains relatively well and has an outlook of weeks to months rather than days, consider transfer to the depot version.

Use in syringe drivers

Octreotide can be painful if given as an SC bolus. This can be reduced if the ampoule is warmed in the hand to body temperature before injection. To reduce the likelihood of inflammatory reactions at the skin injection site with CSCI, dilute to the largest volume possible (e.g., for a Graseby syringe driver, 18ml in a 30ml luerlock syringe given over 24h) and consider the use of 0.9% saline.

There is 2-drug compatibility data for octreotide in 0.9% saline with **alfentanil, diamorphine**, **haloperidol**, **hyoscine *butylbromide***, **hyoscine *hydrobromide***, **metoclopramide**, **midazolam**, **morphine sulphate**, **ondansetron**, and **oxycodone**. 3 drug compatibility data can be discussed with the consultants in palliative medicine. Incompatibility may occur with **dexamethasone** or **levomepromazine**.

Depot formulations

Depot formulations of octreotide and lanreotide are available, given every 4 weeks. There is limited experience of its use for the long-term management of malignant bowel obstruction, although benefit in a small number of patients with ovarian cancer for up to 15 months has been reported. Thus, in palliative care, these long-acting formulations are most likely to be used in patients with a chronic intestinal fistula or intractable diarrhoea. Generally, they will be used only when symptoms have first been controlled with SC octreotide. Patients who have not previously received SC octreotide should have a test dose of 50 to 100microgram SC to exclude any undesirable effects before proceeding with the depot injection. The depot octreotide product requires deep IM injection into the gluteal muscle.

Consultant in Palliative Medicine Responsibilities

- Assess patient symptoms with regard to appropriateness of octreotide use and administration route, considering any contraindications and ensuring no other treatment options available
- Initiate and titrate the dosage regimen for octreotide, either as an inpatient in the hospital or hospice, or on an outpatient/home visit assessment.
- Assess response and side effects.
- Arrange shared care with GP when the patient is managed on a stable regimen.
- Provide clear instructions, with a copy of (or reference to) this prescribing advice to the GP and community specialist palliative care nurses. The patient will have a copy of this letter and advice.
- Provide a copy of these letters to the Out of Hours services in case of deterioration or if the patient requires additional medications. The consultant on call for palliative medicine can be contacted through Doncaster Royal Infirmary switchboard for these patients and advice on symptoms and advice on issuing a prescription.
- Provide patient/carer with relevant information on use, side effects and need for monitoring of medication.
- Ensure the prescription is written for the patient for an appropriate quantity of vials for subcutaneous use to ensure continuity of supply in the community.
- Review the patient's response and continuing appropriateness of octreotide at specified intervals, sending a written summary to the GP. This may be facilitated by the community or hospital specialist palliative care team.
- Provide any other advice or information for the GP and district nursing, hospital teams or hospice teams if required.
- Provide clear advice for the prescribing of octreotide and any syringe driver use.
- Stop the treatment when no longer considered to be appropriate.

GPs can undertake

- Once stable and SCP agreed, prescribe octreotide and arrange ongoing monitoring of symptoms and site reaction as advised and agreed with the specialist.
- Issue appropriate prescriptions for up to 2 weeks duration.
- Refer to specialist when symptoms fail to respond or if stable and symptom controlled but suspicion of ADR (eg gallstones or erratic TFTs)
- Review the patient at regular agreed intervals to monitor control of symptoms.
- Identify adverse drug reactions and report to consultant in palliative medicine.
- Liaise with community and specialist nurses as needed regarding ongoing patient care.

District nursing team/community specialist palliative care nurses/ward nursing teams/hospital specialist palliative care nurses' responsibilities

- Should ensure that they have this advice and an understanding of the subcutaneous route of octreotide medication when admitting the patient/completing a care plan or first assessment and reviews.
- Understand the time that it may take to obtain octreotide in the community and work with the team and the patient to plan that the medication does not run out.
- Be aware of the potential side effects and beneficial effects of octreotide from this advice.
- Have the contact details for the GP and consultants in palliative medicine in the patient's care plan and understand who to contact if problems arise.
- Follow the usual policies for syringe drivers, 'Instruction to Administer' and care plans as for any syringe driver or subcutaneous medications prescribed as per policy within the organisation in which the nursing staff are employed.

This information is not inclusive of all prescribing information and potential adverse effects. Please refer to the full prescribing data SPC, the BNF and the current Palliative Care Formulary. Information is also available at www.palliativedrugs.com

The Consultants in Palliative Medicine are available during working hours through their secretaries and out of hours there is a consultant in Palliative medicine available through DRI switchboard.

Guidance Development Reference

[1]Palliative Care Formulary third edition (PCF7) A Wilcock, P Howard, S Charlesworth 2020
Available via www.palliativedrugs.com

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