Octreotide

Octreotide (Sandostatin) is the longer acting synthetic analogue of the naturally occurring hormone somatostatin. In the hypothalamus it inhibits the release of growth hormone, TSH, prolactin and ACTH. It inhibits the secretion of insulin, glucagon, gastrin and other peptides of the gastro-enteropancreatic system, reducing splanchnic blood flow, portal blood flow, gastrointestinal motility, gastric, pancreatic and small bowel secretion, and increases water and electrolyte absorption.

Indications for use

1. Intestinal obstruction Octreotide decreases the volume of intestinal secretions and thus reduces intestinal distension. It does this by reducing fluid and electrolyte secretion. It also reduces gastrointestinal motility. In patients with cancer and inoperable bowel obstruction octreotide rapidly improves symptoms in approximately 75% of patients.

2. Fistulae
Octreotide decreases the output from fistulae, occasionally leading to closure of the fistula. It has been used in pancreatic, entero-cutaneous, entero-enteric, entero-vesical, entero-vaginal and tracheo-oesophageal fistulae.

3. Neuroendocrine tumours
Symptoms associated with unresectable hormone secreting tumours eg carcinoid, VIPomas, glucagonomas, gastrinomas, insulinomas.

4. Intractable diarrhoea
Related to high output ileostomies, AIDS, radiation, chemotherapy or bone marrow transplant.

Administration
Octreotide is generally administered as either bolus SC or by CSCI
Dose varies according to indication and should be titrated according to effect.

Indication	**Starting dose**	**Usual maximum**
Intestinal obstruction	300 microgram/24hr CSCI	900microgram/24hr
Hormone secreting tumours: Carcinoid,VIPomas, glucagonomas	50-100 micrograms tds SC, increasing to 200 micrograms tds	1500microgram/24 hr
Intractable diarrhoea / Entero-enteric fistulae	300 microgram /24 hr	1500 microgram/24 hr
Hypertrophic pulmonary osteo-arthropathy	100 microgram bd SC	
Malignant ascites	200-600 microgram daily	600 microgram/24 hr

1. Continuous SC infusion

- Initial starting dose of 100 - 300micrograms/24hrs diluted with 0.9% saline
- Titrate dose according to effect up to maximum recommended dose
- It may take several days before full effect is seen
- It may be possible to reduce the dose if control of symptoms is achieved

Warm the drug to room temperature to avoid stinging on injection

Can be mixed with diamorphine, dexamethasone, metoclopramide, hyoscine butylbromide, midazolam and haloperidol in CSCI

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2. Twice daily SC injections

Commence 50micrograms bd sc
Increase dose until symptoms controlled

3. Depot preparations (Long acting somatostatin analogue)

Depot preparations are available
e.g. Octreotide 10-30mg every 4 weeks by deep IM injection.
or Lanreotide (Somatuline LA) 30mg, given every 2 weeks IM
or Lanreotide (Somatuline Autogel) 30-90mg given every 28 days by deep SC injection.
In palliative care these long acting preparations are generally used only when symptoms have first been controlled with SC octreotide. Long acting preparations are most likely to be used in patients with chronic intestinal fistula or intractable diarrhoea.

In neuroendocrine tumours continue the SC dose for 2 weeks after the first depot injection.

Cautions
1. Insulin requirements in diabetic patients may fall; glucose intolerance in others.
2. Risk of gallstones with prolonged use
3. Insulinoma – may potentiate hypoglycaemia

Side effects
For full list see manufacturers' SPC

Bolus injection is painful (less if vial warmed to room temperature), dry mouth, flatulence

References
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