UK and Ireland Neuroendocrine Tumour Society

UKINETS bitesize guidance
Side effects of Somatostatin Analogues

Symptom	Guidance
Diarrhoea/loose stools	Various possible causes - full assessment needed Most commonly the patient may have abdominal discomfort or pain, nausea, flatulence, and diarrhoea on the day, or 2-3 days after, the monthly injection. Need to establish if this is something the patient can cope with or if they want this controlled. First line - loperamide.
Other causes of diarrhoea that need excluding	1. Active tumours 2. Carcinoid triggers - secretory diarrhoea (abundant, several litres per day, watery, over secretion of salts, continues despite fasting). Patient should eat protein at every meal - needs tryptophan to produce serotonin as this is used in high amounts so needs replacing. Niacin supplements. Consider loperamide. 3. Surgery Small Intestinal bacterial Overload (SIBO) - bacteria from colon passes into small bowel, only present if blind loop, stricture, obstruction, or motility issues. Hydrogen breath test. 4. Bile acid malabsorption - in case of bile acid loss consider cholestyramine, or loperamide. 5. Steatorrhea - treat with pancreatic enzyme replacement therapy (PERT). These contain replacements of amylase, protease and lipase. Prescribe Creon, 25,000-unit capsules. Starting dose 2-3 with main meals and 1-2 with snacks. Titrate according to response, Patient may need higher dose with some foods that are a personal trigger for them. It may be necessary to try alternative PERTs. Referral to dietitian recommended.
Nausea/vomiting	Likely secondary to meteorism (abdominal gas) - most likely related to inhibition of pancreatic enzymes. Treat as per steatorrhea.
Gastro-intestinal cramps/ stomach pains	Likely secondary to meteorism (abdominal gas) - most likely related to inhibition of pancreatic enzymes. Treat as per steatorrhea. Do not avoid foods - this can make things worse. Eat smaller, tempting portions until appetite recovers. If persists and weight loss ensues, seek dietitian advice.
Constipation	Likely secondary to meteorism (abdominal gas) - most likely related to inhibition of pancreatic enzymes. Treat as per steatorrhea. Do not avoid foods - this can make things worse. Eat smaller, tempting portions until appetite recovers. Antiemetics may be of benefit. If persists and weight loss ensues, seek dietitian advice.
Development of gallstones	Patients may be asymptomatic of this until secondary effects - pancreatitis, cholecystitis, biliary colic. The gallbladder should be removed. In cases of planned surgery for primary tumour or metastases, or abdominal surgery unrelated to NET, a prophylactic cholestectomy can be considered.
Headaches	Somatostatin bind to different receptors in various body systems - there can be multiple causes for headache. Assessment of the headache patterns, symptoms etc will help in advising the most effective relief. This may be simple analgesia (beware those including codeine which can cause rebound headaches if used too often), NSAIDS, triptans. Healthy lifestyle habits may help reduce headaches. If headaches do not respond, then consider imaging and referral to neurologist.
Dizziness	Somatostatin produces neuroendocrine inhibitory effects across multiple systems - dizziness may also occur in relation to reduced dietary intake/poor nutritional state. Assessment of the patterns and establishing if this is something the patient can live with, especially coping mechanisms during the episode. If episodes are severe then assessment by neurologist may be necessary.

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"Somatostatin is a hormone that inhibits the release of growth hormone and secretion of a number of hormones within the gastrointestinal tract. Somatostatin also inhibits contraction of the gall bladder and secretion of pancreatic enzymes" (NET Alliance, no date). Naturally occurring somatostatin is a short acting hormone. Somatostatin analogues, however, have been developed as long-acting depot injections with subsequent side effects.
"Frequently occurring side effects, such as abdominal discomfort, bloating, steatorrhoea due to inhibition of pancreatic enzymes are mostly mild and subsides spontaneously within the first weeks of therapy" (Öberg, 2012, p837)

"In ≤1% of patients, severe and/or durable SSA-related diarrhoea, or increased diarrhoea and/or flushing in carcinoid syndrome due to paradoxical release of mediators, or exacerbation of hypoglycaemia in metastatic insulinoma may occur. In such cases, SSA should be stopped and an alternative treatment considered" (Pavel and Valle, 2017, p269)
Note – many of these symptoms will result in malnourishment. Support from a dietitian is strongly recommended. If hair thinning is an issue, consider wig referral.

References

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