UKI NETS UK and Ireland Neuroendocrine Tumour Society

UKINETS bitesize guidance Managing side effects of Somatostatin Analogues

Symptom	Guidance
Steatthorea/diarrhoea	If SSA related usually occurs 12-24hrs after injection for 2-3 days If treatment required: • Creon 50000 tds 25,00 snacks plus titratre • Consider lopermide Remember other causes of diarrhoea in these patients (see separate BSG re diarrhoea in NETs)
Abdominal pain/ cramp/nausea/vomiting	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. Usually passes in a few days: paracetamol/antiemetics as required. These symptoms tend to improve in the longer term.
Blood sugars	Usually hyperglycaemia but occasionally hypoglycaemia. Symptoms of polydypsia/polyurea. Check BMs urgently and monitor HbA1c in longer term. Existing diabetics: careful monitoring of blood sugars on oral hypoglycaemics. Advise insulin dependant diabetics they may need to increase dose of insulin (monitor BMs)
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 choleystectomy can be considered.
Headaches	**Usually just after injection**. Treat with 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/slow heart rate	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.
Others	Hair Thinning – consider wig referral Lumps and pain at injection site: vary injection site, at least 1 cm from previous (NB sites of injection may be seen and reported on CT etc)

UKINETS bitesize guidance
Management of NETs of the Appendix

"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 enzy mes 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.

References

Altieri, B., Barrea, L., Modica, R., Circelli, L., Bottiglieri, F., De Cicco, F., Savarese, G., Di Somma, C., Colao, A., Savastano, S., and Faggiano, A. (2019) Vitamin D deficieny is a predisctor marker of tumor aggressiveness in sporadic and MEN1-related well-diffeniated, low-grade GEP-NET, Endocrine Abstracts, Vol 63, p36 [www.endocrine-abstracts.org/ - accessed 04/09/2023]

NET Alliance (no date) Neuroendocrine Tumours: A Guide For Nurses, https://oslo-universitetssykehus.no/seksjon/regionalt-senter-for-nevroendokrine-svulster/Documents/NET-Nurse-Guide-_online-version_-24MAY12.pdf

Öberg,K. (2012) Biotherapies for GEP-NETS, Best Practice & Research Clinical Gastroenterology, Vol 26 (2012), pp 833-841.

Pavel, M. and Valle, J. (2017) 'ENETS consensus guidelines for the standards of care in neuroendocrine neoplasms: Systemic therapy – biotherapy and novel targeted agents', Neuroendocrinology, 2017,1095: pp226-280. [my.enets.org/guidelines_2017.html accessed 5/9/23]

Sweetser, S. (2012) 'Evaluating the patient with diarrhea: A case=based approach', Mayo Clinic Proceedings, June 2012, Vol 87(6), pp596-602. [www.ncbi.nlm.nih.gov/pmc/articles/PMC3538472/ accessed 28/8/23]