



PATIENT CASE STUDY #3:

CARCINOID SYNDROME



Patient Workup

- Symptoms began 3 years ago and include diarrhea, intermittent dry flushing, anxiety, and abdominal pain
- Past diagnoses have included Crohn's disease, menopause, and anxiety disorder
- Stool sample without blood helps rule out Crohn's; intermittent dry flushing helps rule out menopausal origin; diarrhea and flushing together raise suspicion of NET
- Workup confirms diagnosis of metastatic midgut carcinoid (neuroendocrine) tumor
- Dissatisfied with the frequency of short-acting SSA injections for carcinoid syndrome



Treatment Consideration: Somatuline[®] Depot (lanreotide), a 1st-line (1L) therapy^{1,2}

- Somatostatin analog (SSA) therapy for PFS[†] improvement in patients with unresectable, well- or moderately-differentiated, locally advanced or metastatic GEP-NETs
- Somatostatin analog (SSA) therapy for carcinoid syndrome (CS); when used, it reduces frequency of short-acting SSA rescue therapy

Cora* is a 57-year-old executive and enjoys cooking for friends and family.

*Patient portrayed by an actor, and represents a hypothetical case.

[†]PFS=progression-free survival.

IMPORTANT SAFETY INFORMATION

Contraindications

- SOMATULINE DEPOT is contraindicated in patients with hypersensitivity to lanreotide. Allergic reactions (including angioedema and anaphylaxis) have been reported following administration of lanreotide.

Warnings and Precautions

- **Cholelithiasis and Gallbladder Sludge**
 - SOMATULINE DEPOT may reduce gallbladder motility and lead to gallstone formation.
 - Periodic monitoring may be needed.
 - If complications of cholelithiasis are suspected, discontinue SOMATULINE DEPOT and treat appropriately.

Please see full Important Safety Information throughout; click here for full [Prescribing Information](#) and [Patient Information](#).



Somatuline[®] Depot
(lanreotide) Injection 120 mg

PATIENT CASE STUDY #3:

PRACTICE POINTERS



Daneng Li, MD

Co-director of the Neuroendocrine
Tumor Program, City of Hope
National Medical Center in California

Dr. Li is a paid consultant of Ipsen
Biopharmaceuticals, Inc.

- Consider a broad range of diagnoses when assessing patients with diarrhea and flushing—including NETs³⁻⁶:
 - Use the “FDR” mnemonic—flushing, diarrhea, and right-sided heart failure—to raise suspicion of NET
 - Differentiate carcinoid diarrhea from IBS and IBD if it is persistent and non-flaring, occurs at night and daytime, and appears related to excess serotonin secretion. Further testing may help rule these out
 - Dry flushing may help rule out menopause as a cause
 - Flushing and anxiety not related to a particular cause can rule out anxiety disorder
- 5-HIAA test can help diagnose new patients, but false positives can occur. Results should be considered with the patient’s overall presentation⁴
- Customize diet recommendations to the patient⁷:
 - Consider avoiding foods high in amines like aged cheese or smoked meats to help manage carcinoid symptoms
 - Monitor dehydration and fluid intake
 - A food journal can help the patient identify any symptom triggers

“Have a broad differential diagnosis when you’re seeing a patient that has symptoms that could potentially be carcinoid syndrome, such as diarrhea or flushing.”

–Dr. Daneng Li

IMPORTANT SAFETY INFORMATION (continued)

Warnings and Precautions (continued)

• Hypoglycemia or Hyperglycemia

- Patients treated with SOMATULINE DEPOT may experience hypoglycemia or hyperglycemia.
- Blood glucose levels should be monitored when SOMATULINE DEPOT treatment is initiated, or when the dose is altered, and antidiabetic treatment should be adjusted accordingly.

• Cardiovascular Abnormalities

- SOMATULINE DEPOT may decrease heart rate.
- In patients without underlying cardiac disease, SOMATULINE DEPOT may lead to a decrease in heart rate without necessarily reaching the threshold of bradycardia.
- In patients suffering from cardiac disorders prior to treatment, sinus bradycardia may occur. Care should be taken when initiating treatment in patients with bradycardia.

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IMPORTANT SAFETY INFORMATION (continued)

Most Common Adverse Reactions

- **GEP-NETs:** Adverse reactions in >10% of patients who received SOMATULINE DEPOT were abdominal pain (34%), musculoskeletal pain (19%), vomiting (19%), headache (16%), injection site reaction (15%), hyperglycemia (14%), hypertension (14%), and cholelithiasis (14%).
- **Carcinoid Syndrome:** Adverse reactions occurring in the carcinoid syndrome trial were generally similar to those in the GEP-NET trial. Adverse reactions in $\geq 5\%$ of patients who received SOMATULINE DEPOT and at least 5% greater than placebo were headache (12%), dizziness (7%) and muscle spasm (5%).

Drug Interactions: SOMATULINE DEPOT may decrease the absorption of cyclosporine (dosage adjustment may be needed); increase the absorption of bromocriptine; and require dosage adjustment for bradycardia-inducing drugs (e.g., beta-blockers).

Special Populations

- **Lactation:** Advise women not to breastfeed during treatment and for 6 months after the last dose.

To report **SUSPECTED ADVERSE REACTIONS**, contact Ipsen Biopharmaceuticals, Inc. at 1-855-463-5127 or FDA at 1-800-FDA-1088 or www.fda.gov/medwatch.

Please click here for the full [Prescribing Information](#) and [Patient Information](#).

“What I say to my patients is that no one size fits all. Dietary guidance has to be done in terms of a personalized and individualized approach.”

–Dr. Daneng Li

References: 1. National Comprehensive Cancer Network®. NCCN Clinical Practice Guidelines in Oncology 2015 (NCCN Guidelines®). http://www.iqanda-cme.com/assets/pdf/NCCN%20Guidelines_Neuroendocrine%20Tumors.pdf. Accessed February 3, 2018. 2. Somatuline Depot (lanreotide) Injection [Prescribing Information]. Basking Ridge, NJ: Ipsen Biopharmaceuticals, Inc; April 2019. 3. Cai B, Broder M, Chang E, Yan T, Metz D. Predictive factors associated with carcinoid syndrome in patients with gastrointestinal neuroendocrine tumors. *World J Gastroenterol.* 2017;23(40):7283-7291. 4. Astor L. Diagnosing and Treating NET-Related Diarrhea. *Targeted Oncology.* <https://www.targetedonc.com/conference/2017-nanets/diagnosing-and-treating-netrelated-diarrhea>. Published October 21, 2017. Accessed February 3, 2019. 5. Nasr C. Disease Management Project. <https://www.carcinoid.org/wpcontent/uploads/2015/10/Flushing2004.pdf>. Published December 7, 2004. Accessed February 3, 2019. 6. Alper B, Raglow G. Diagnosing and treating generalized anxiety disorder. *Clinical Advisor.* <https://www.clinicaladvisor.com/stat-consult/diagnosing-and-treating-generalized-anxiety-disorder/article/161667/>. Published 2019. Accessed February 8, 2019. 7. Warner M. Nutritional concerns for the carcinoid patient: developing nutrition guidelines for persons with carcinoid disease. Carcinoid Cancer Foundation. <https://www.carcinoid.org/for-patients/general-information/nutrition/nutritional-concerns-for-the-carcinoid-patient-developing-nutrition-guidelines-for-persons-with-carcinoid-disease/>. Published 2008. Accessed February 8, 2019.