Dr. Ricky Hsu is a graduate of Harvard Medical School. He completed his residency at UCLA, specializing in internal medicine and HIV. He practices medicine in New York City, where he combines clinical work with research in molecular immunology, HIV drug resistance, cardiovascular risk stratification, and immunotherapy with gene-modified cells. He lectures widely on HIV, has published extensively, and has presented at numerous International AIDS Conferences. Dr. Hsu is board certified in internal medicine and is a member of the HIV Medicine Association of the Infectious Disease Society of America.

Clinical Conversations in HIV-Associated Wasting

A brief discussion with Ricky Hsu, MD

INDICATIONS AND USAGE

Serostim® (somatropin) for injection is indicated for the treatment of HIV patients with wasting or cachexia to increase lean body mass and body weight, and improve physical endurance. Concomitant antiretroviral therapy is necessary.

IMPORTANT RISK INFORMATION

CONTRAINDICATIONS

Serostim® should not be used in patients with acute critical illness, active malignancy, hypersensitivity to somatropin or any of its excipients, or diabetic retinopathy. Increased mortality has been reported in patients with acute critical illness due to complications following surgery, multiple accidental trauma, or acute respiratory failure. Preexisting malignancies should be inactive and treatment completed prior to instituting therapy. Serostim® should be discontinued if there is evidence of tumor recurrence. Systemic hypersensitivity reactions have been reported with postmarketing use of somatropin products.

Please see additional Important Risk Information throughout and enclosed Full Prescribing Information.

Serostim®
(somatropin) for injection

A brief discussion with Ricky Hsu, MD

Q: How have views on HIV-associated wasting changed from the time you started practicing until now?

A: Many providers may say, "Oh, we don't see HIV wasting these days." However, it still definitely exists, even in people who have fully suppressed HIV viral loads and normal T cell counts. I think we're starting to better understand that even with full viral suppression, there oftentimes is still a subtle underlying inflammatory process that exists, which can contribute to wasting.

We also better understand that wasting consists of a combination of signs and symptoms. One of those signs and symptoms includes a significant decrease in exercise capacity or the physical inability to complete day-to-day activities.

When we combine decreased exercise capacity, decreased muscle mass, and weight loss, this condition can be defined as wasting syndrome.

Q: Can you tell us about a patient you've treated with HIV-associated wasting?

A: I treated a 58-year-old male who was diagnosed with HIV 15 years ago. He had been on a long-term anti-retroviral regimen and had undetectable HIV viral loads and stable T cell counts in the 500 cells/mm^3 range. When he initially started experiencing symptoms of wasting, he merely complained of generalized fatigue. I then noticed he started having weight loss, as well as nausea and decreased appetite. I addressed the nausea and appetite issues but the patient did not experience an ideal amount of weight gain or increased energy. He also used to swim daily but he complained he wasn't maintaining his muscle tone even though he was exercising regularly. His exercise capacity continued to diminish over the next few months, and his energy level only allowed him to swim 3 times a week instead of his usual everyday routine.

His partner came with him one day and also mentioned that daily tasks like getting dressed took him longer than usual, and simple things like opening jars—since the patient was a chef—had become increasingly difficult. The combination of weight loss and decreased physical endurance led us to suspect HIV-associated wasting, and after ruling out and addressing other issues, we decided to initiate Serostim® (somatropin) for injection.

Q: What was the patient's experience with Serostim®?

A: The patient did well on Serostim®. In a three-month period the patient had a weight gain almost to his baseline levels, and he noticed more energy in terms of his swimming capacity. He started swimming 4 or 5 days out of the week and he was able to get up to 4 laps per day, which was certainly an improvement in his endurance. He also noticed an improvement in energy and muscle tone.

Q: How did you help the patient get the treatment he needed?

A: The initial approval of Serostim® was not an issue because the AXIS Center® was there to help in the process. As per the Statement of Medical Necessity (SMN) form, I sent in documentation of his weight loss, stable HIV, and his lack of contraindications to the medicine, and he was approved for treatment without issues.

The AXIS Center® is particularly useful for reauthorizations. When we tried to get this patient's Serostim® prescription renewed after the first three months, the renewal was rejected simply because of his initial weight gain, even though his decreased exercise capacity continued. In my professional medical opinion, he still needed to be on therapy.

The initial rejection was reversed and he was able to continue treatment. After continuing on Serostim® the patient eventually returned to his baseline weight and exercise capacity.

Q: How does the process work?

A: A dedicated reimbursement specialist is assigned to each case through the AXIS Center® so the office and patient can have direct contact with one specialist who is familiar with their case. They are all well informed regarding the specific indication for Serostim® and the information insurance companies need to make a decision as to approval.

Oftentimes, if an insurance company rejects a medicine, both patient and office give up due to the frequently burdensome prior approval and appeal process. Even if the medicine is beneficial for the patient, sometimes providers decide to forgo a treatment that requires insurance authorization due to lack of time and support in the appeals process. But with the AXIS Center®, we now have the assistance necessary for the prior approval procedures. They provide additional support services that may be helpful for a patient's case, and they communicate with the patients to keep them updated throughout the process. This helps ease some of the anxiety a patient may experience while awaiting their medicine to be approved.

This particular patient had private insurance and was covered for Serostim®, and the AXIS Center® helped apply the Serostim® Copay Assistance Program to minimize the patient financial burden.

Q: How does the AXIS Center® assist with your patients?

A: Many offices may not have the ability to train patients in how to self-inject or reconstitute their medicines. Fortunately, the AXIS Center® does have the capability for in-home injection training, and can answer questions a patient may have regarding Serostim®.

Patient Case

Clinician's observation: "Daily tasks like getting dressed took him longer than usual and simple things like opening jars had become increasingly more difficult. The combination of weight loss and decreased physical endurance led us to suspect HIV-associated wasting."

PATIENT PROFILE

58-year-old male with a 14-year history of HIV+ who experienced a 10-lb loss from his premorbid weight. In addition to weight loss, he reported general fatigue and reduced endurance impacting his ability to perform as a chef and sustain his regular swimming routine. Appetite stimulants were initiated to address reduced appetite, but the patient continued to experience weight loss. Serostim® (somatropin) for injection therapy was initiated to address HIV-associated wasting.

RELEVANT MEDICAL HISTORY

- HIV+ (2002)

SOCIAL HISTORY

- Occupation: Chef; reports that simple tasks such as opening jars have become increasingly difficult
- Relationship status: Committed relationship
- Previously an avid swimmer

OVERVIEW OF SYMPTOMS AT TIME OF HIV-ASSOCIATED WASTING DIAGNOSIS

- Weight loss
- Nausea
- Decreased appetite
- Generalized fatigue
- Decreased physical endurance
- Decreased swimming capacity

WEIGHT HISTORY

- Height: 5'6"
- Premorbid weight: 135 lb
- Premorbid BMI: 21.8
- Weight at HIV-associated wasting diagnosis: 119 lb
- BMI at HIV-associated wasting diagnosis: 19.2

PHYSICAL EXAM

- Noted decreased muscle tone

LABORATORY RESULTS

- TSH: Within normal limits
- Testosterone levels: Within normal limits
- Triglycerides: Upper limit normal
- A1C: Slightly elevated

TREATMENT HISTORY

- Appetite stimulants

This case study represents a real patient of Dr. Hsu, however, it may not be a complete representation of the individual's entire medical case or include his full experience with Serostim®. Certain details such as concomitant medications, dose adjustments, and adverse reactions may not be reflected. For more information obtained from clinical trials and unsolicited post-marketing reporting of adverse experiences, refer to the Important Risk Information throughout and see enclosed Full Prescribing Information.

IMPORTANT RISK INFORMATION (CONTINUED)

WARNINGS AND PRECAUTIONS

Acute Critical Illness: Increased mortality in patients with acute critical illness due to complications following open heart surgery, abdominal surgery or multiple accidental trauma, or those with acute respiratory failure has been reported after treatment with [pharmacologic amounts of] somatropin.

Concomitant Antiretroviral Therapy: Somatropin has been shown to potentiate HIV replication in vitro, however there was no increase in virus production when antiretroviral agents were added to the culture medium. All patients received antiretroviral therapy for the duration of treatment during Serostim® clinical trials and no significant increase in viral burden was observed.

Neoplasms: Patients with preexisting tumors should be monitored for progression or reoccurrence. Monitor patients on somatropin therapy carefully for preexisting nevi.

Please see additional Important Risk Information continued on the back and enclosed Full Prescribing Information.

EMD Serono is committed to helping patients access Serostim® (somatropin) for injection

THE AXIS CENTER® IS A REIMBURSEMENT AND SUPPORT PROGRAM THAT PROVIDES:

A personal, dedicated case manager to help meet the specific needs of appropriate patients, including:

- Verification of benefits and coverage for Serostim®
- Submission and follow up of prior authorizations and any additional forms requested by payors or pharmacies
- Assistance with appeals and attempts to substitute for the Serostim® therapy prescribed
- Coordination with the Serostim® Patient Assistance Program, which provides free medication to eligible patients, and the Serostim® Copay Assistance Program,* which can decrease or eliminate out-of-pocket costs for eligible commercially or privately insured patients
- Arranging injection training with a nurse trainer at a location of the patient's choice

Product support specialists available 24/7 to address questions about product administration.

For more information about the AXIS Center® and the patient support it offers, please call 1-877-714-AXIS (2947).

*Patients may not use if they receive drug benefits from a federal or state program or if their private insurance paid for the entire Serostim® prescription.

IMPORTANT RISK INFORMATION (CONTINUED)

WARNINGS AND PRECAUTIONS

Impaired Glucose Tolerance/Diabetes: Cases of new onset impaired glucose tolerance, new onset type 2 diabetes, and exacerbation of preexisting diabetes have been reported in patients receiving Serostim®. Some patients developed diabetic ketoacidosis and diabetic coma. Patients with risk factors for hyperglycemia and glucose intolerance should be monitored closely and those using antidiabetic agents may require dose adjustment.

Intracranial Hypertension: Intracranial hypertension (IH) with papilledema, visual changes, headache, nausea, and/or vomiting has been reported. Funduscopic examination should be performed prior to initiating treatment with Serostim® and periodically during the course of treatment. If papilledema is observed, treatment should be stopped and restarted at a lower dose after IH-associated symptoms have resolved.

Severe Hypersensitivity: Serious systemic hypersensitivity reactions including anaphylactic reactions and angioedema have been reported with postmarketing use of somatropin products. Patients and caregivers should be informed that such reactions are possible and that prompt medical attention should be sought if an allergic reaction occurs.

Fluid Retention/Carpal Tunnel Syndrome: Swelling (particularly in the hands and feet), musculoskeletal discomfort, or carpal tunnel syndrome may occur during treatment with Serostim®. Symptoms may resolve spontaneously, with analgesic therapy, or after reducing the frequency of dosing. If symptoms of carpal tunnel do not resolve by decreasing the weekly number of doses, it is recommended that Serostim® treatment be discontinued.

Skin Atrophy: Rotate the injection site to avoid tissue atrophy.

Pancreatitis: Cases of pancreatitis have been reported rarely. Consider pancreatitis in patients who develop persistent severe abdominal pain.

ADVERSE REACTIONS

In clinical trials in HIV-associated wasting or cachexia the most common adverse reactions (incidence >10%) were increased tissue turgor, arthralgia, myalgia, and arthrosis, which may be responsive to dose reduction. Other common adverse reactions (incidence >5%) included nausea, fatigue, gynecomastia, paresthesia, generalized edema and hypoesthesia.

SPECIAL POPULATIONS:

Somatropin should be used during pregnancy only if clearly needed and with caution in nursing mothers because it is not known whether somatropin is excreted in human milk. The safety and effectiveness of somatropin in patients with hepatic or renal impairment or in patients aged 65 years and over have not been evaluated in clinical studies.

Please see the enclosed Prescribing Information for full disclosure.

EMD SERONO

EMD Serono is a business of Merck KGaA, Darmstadt, Germany

Serostim® (somatropin) for injection