tesamorelin (tes-a-moe-rel-in)

Classification
Therapeutic: none assigned
Pharmacologic: growth hormone-releasing factor analogues

Pregnancy Category: X

Indications
Reduction of excess abdominal fat (lipodystrophy) seen in HIV-infected patients.

Action
Acts as an analog of human growth hormone-releasing factor (GRF, GHRH), resulting
in endogenous production of growth hormone (GH), which has anabolic and lipoly-
tic properties. Therapeutic Effects: Reduction of abdominal adipose tissue in
HIV-infected patients.

Pharmacokinetics
Absorption: 4% absorbed following subcutaneous administration.
Distribution: Unknown.
Metabolism and Excretion: Unknown.
Half-life: 26–38 min.

TIME/ACTION PROFILE (effect on visceral adipose tissue)

<table>
<thead>
<tr>
<th>ROUTE</th>
<th>ONSET</th>
<th>PEAK</th>
<th>DURATION</th>
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<tbody>
<tr>
<td>Subq</td>
<td>3 mos</td>
<td>10–12 mos</td>
<td>3 mos†</td>
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†Following discontinuation.

Contraindications/Precautions
Contraindicated in:
Hypersensitivity to tesamorelin or mannitol; Any pathology
that alters the hypothalamic-pituitary axis, including hypophysectomy, hypopituita-
rism, pituitary surgery/tumor, cranial irradiation/trauma;
OB: may cause fetal harm;
Lactation: Breast feeding should be avoided by HIV-infected patients.
Use Cautiously in:
Acute critical illness (may increase risk of serious complications; consider discontinuation);
Pre-existing malignancy (disease should be inactive or treatment completed), Non-malignant neoplasms (carefully consider benefit); Pre-
somatically elevated Insulin-like Growth Factors (IGF-I; may require discontinuation);
Diabetes mellitus (may cause glucose intolerance); Pedi: safe and effective use in
children not established.

Adverse Reactions/Side Effects
CV: peripheral edema.
Endo: glucose intolerance.
Local: erythema, hemorrhage, irritation, pain, pruritus.
MS: arthralgia, carpal tunnel syndrome, extremity pain, myalgia.
Misc: hypersensitivity reactions.

Interactions
Drug-Drug: May alter the clearance and actions of drugs known to be metabolized
by the CYP450 enzyme system including corticosteroids, androgens, estrogens
and progestins (including hormonal contraceptives), anticonvulsants, anly-
desynthesis; careful monitoring for efficacy and/or toxicity recommended. Inhibits
the conversion of nortestosterone and prednisone to active forms; patients on
replacement therapy may need increased maintenance/stress doses.

Route/Dosage
Subcut (Adults): 2 mg once daily.

NURSING IMPLICATIONS

Assessment
● Assess for fluid retention which manifests as ↑ tissue turgor and musculoskeletal
discomfort (edema, arthralgia, extremity pain, carpal tunnel syndrome). May be
transient or resolve with discontinuation of treatment.
● Lab Test Considerations: Monitor serum IGF-I closely during therapy; tes-
amorelin stimulates growth hormone production and the effect on progression of
malignancies is unknown. Consider discontinuing tesamorelin in patients with
persistent elevations of IGF-I levels, especially if efficacy response is insufficient.
● May cause glucose intolerance and ↑ risk of developing diabetes. Monitor serum
glucose prior to starting and periodically during therapy. Monitor diabetic pa-
tients closely for worsening of retinopathy.

Potential Nursing Diagnoses
Disturbed body image (indications)

Implementation
● Subcut: Sterile Water for Injection 10 mL is provided. Inject 2.2 mL of
Sterile Water into tesamorelin, angled so that water goes down inside wall to pro-
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vent foaming. Roll vial gently between hands for 30 seconds to mix; do not shake. Change needle. Withdraw solution and inject into 2nd tesamorelin vial with solution against wall of vial. Mix between hands for 30 seconds. Withdraw all solution (2 mg/2.2 mL). Solution is clear and colorless; do not administer solution that is discolored or contains particulate matter. Use solution immediately upon reconstitution or discard; do not refrigerate or freeze. Change needle to 1/2 inch 27 gauge needle. Pinch skin and inject at right angle into abdomen below navel, rotate sites. Remove hand from pinched area and inject slowly. Do not inject into scar, bend, or the navel. Prior to reconstitution, vials must be refrigerated and protected from light.

Patient/Family Teaching

- Instruct patient on correct technique for administration of tesamorelin. Caution patient never to share needles with others.
- Instruct patient that tesamorelin may cause symptoms of fluid retention (edema, arthralgia, carpal tunnel syndrome); usually transient or resolve with discontinuation of therapy.
- Advise patient to discontinue tesamorelin and notify health care professional promptly if signs and symptoms of hypersensitivity (rash, urticaria, hives, swelling of face or throat, shortness of breath, fast heartbeat, fainting) occur.
- Advise female patients to notify health care professional if pregnancy is planned or suspected or if breast feeding.

Evaluation/Desired Outcomes

- Reduction of excess abdominal fat in HIV-infected patients with lipodystrophy.

Why was this drug prescribed for your patient?