cosyntropin (koe-sin-troe-pin)

Classification
Therapeutic: diagnostic agents, hormones (adrenocorticotropic)
Pharmacologic: hormones

Pregnancy Category C

Indications
Adrenocortical insufficiency.

Action
A synthetic form of corticotropin (ACTH); stimulates the adrenal gland to primarily produce cortisol (hydrocortisone) and a small amount of mineralocorticoids (aldosterone). Action requires intact adrenal responsiveness. Therapeutic Effects: Production of adrenal steroids after administration.

Pharmacokinetics
Absorption: Rapidly absorbed.
Distribution: Removed from plasma to many tissues.
Metabolism and Excretion: Unknown.
Half-life: Unknown.

TIME/ACTION PROFILE (effects on plasma cortisol levels)

<table>
<thead>
<tr>
<th>ROUTE</th>
<th>ONSET</th>
<th>PEAK</th>
<th>DURATION</th>
</tr>
</thead>
<tbody>
<tr>
<td>IM, IV</td>
<td>5 min</td>
<td>45–60 min</td>
<td>unknown</td>
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Contraindications/Precautions
Contraindicated in: Hypersensitivity.
Use Cautiously in: OB, Lactation: Pregnancy or lactation (safety not established).

Adverse Reactions/Side Effects
Misc: hypersensitivity reactions including ANAPHYLAXIS.

Interactions
Drug-Drug: Corticosteroids, estrogens, and spironolactone alter the results of testing.

NURSING IMPLICATIONS

Assessment
● In patients with a history of allergic reactions, monitor for hypersensitivity response (wheezing, rash, or hives, and dyspnea). Cosyntropin is less likely than ACTH to cause such a response.

● Lab Test Considerations: Plasma cortisol concentrations will be measured before and 30 or 60 min after administration of cosyntropin. Therapeutic response is a rise in the plasma cortisol of at least 7 mcg/dL above baseline or a final concentration of at least 9 mcg/dL. In patients with septic shock, a therapeutic response is defined as a rise in the plasma cortisol of at least 9 mcg/dL. Administration of corticosteroids, estrogen, or spironolactone on the day of testing will interfere with test results by causing elevated baseline plasma cortisol concentrations.

Potential Nursing Diagnoses
Deficient knowledge, related to medication regimen (Patient/Family Teaching)

Implementation
● Do not confuse Cosyntropin with colchicine.

● May be administered IM, direct IV, and by IV infusion.

● Reconstitute 250-mcg vial with 1 mL of 0.9% NaCl for IM injection.

IV Administration

● Direct IV: Reconstitute 250-mcg vial with 2–5 mL of 0.9% NaCl for direct IV injection. Rate: Administer over 2 min.

● Intermittent Infusion: Diluent: May be further diluted in 50 mL of D5W or 0.9% NaCl. Stable for 12 hr at room temperature or 24 hr if refrigerated. Rate: Infuse at a rate of 25 mcg/hr over 0.5 hr.

Patient/Family Teaching
Explain purpose of cosyntropin and need for lab tests.

Evaluation/Desired Outcomes
Differentiation of primary from secondary adrenocortical insufficiency.

Why was this drug prescribed for your patient?