beclomethasone (be-kloe-meth-a-sone)

 Classification
Therapeutic: anti-inflammatory (steroidal)
Pharmacologic: corticosteroids

Pregnancy Category C

Indications
Maintenance treatment of asthma as prophylactic therapy. May decrease requirement for or eliminate use of systemic corticosteroids in patients with asthma.

Action
Dose, locally acting, anti-inflammatory, and immune modulator. Therapeutic Effect:
Decreases frequency and severity of asthma attacks. Improves asthma symptoms.

Pharmacokinetics
Absorption: 20%. Action is primarily local following inhalation.
Distribution: Crosses the placenta and enters breast milk in small amounts.
Metabolism and Excretion: Following inhalation, beclomethasone dipropionate is primarily converted to beclomethasone 17-monopropionate (active metabolite); primarily excreted in feces (10% excreted in urine).
Half-life: 2.8 hr.

TIME/ACTION PROFILE (improvement in symptoms)

<table>
<thead>
<tr>
<th>ROUTE</th>
<th>ONSET</th>
<th>PEAK</th>
<th>DURATION</th>
</tr>
</thead>
<tbody>
<tr>
<td>Inhalation</td>
<td>20–40 min</td>
<td>1–4 hr</td>
<td>unknown</td>
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</tbody>
</table>

*Improvement in pulmonary function, decreased airway responsiveness occurs twice daily.

Contraindications/Precautions
Contraindicated in: Hypersensitivity (product contains alcohol); Acute attack of asthma/status asthmaticus.
Use Cautiously in: Active untreated infections; Diabetes or glaucoma; Underlying immunosuppression (due to disease or concurrent therapy); Systemic corticosteroid therapy (should not be abruptly discontinued when inhalable therapy is started); additional corticosteroids needed in stress or trauma.

Adverse Reactions/Side Effects
CNS: headache.
EENT: cataracts, dysphonia, oropharyngeal fungal infections, pharyngitis, sinusitis.
Resp: bronchospasm, cough, wheezing.
Endo: adrenal suppression (increased dose, long-term therapy only), decreased growth (children).
MS: back pain.

Interactions
Drug-Drug: None known.

Route/Dosage
Inhaln (Adults and Children ≥12 yr): Previously on bronchodilators alone—40–80 mcg twice daily (not to exceed 320 mcg twice daily). Previously on inhaled corticosteroids—40–160 mcg twice daily (not to exceed 320 mcg twice daily).
Inhaln (Children 5–11 yr): Previously on bronchodilators alone—40 mcg twice daily (not to exceed 80 mcg twice daily). Previously on inhaled corticosteroids—40 mcg twice daily (not to exceed 80 mcg twice daily).

NURSING IMPLICATIONS
Assessment
● Monitor respiratory status and lung sounds. Pulmonary function tests may be assessed periodically during and for several months following transfer from systemic to inhalation corticosteroids.
● Assess patients changing from systemic corticosteroids to inhalation corticosteroids for signs of adrenal insufficiency (anorexia, nausea, weakness, fatigue, hypotension, hyperglycemia) during initial therapy and periods of stress. If these signs appear, notify physician or other health care professional immediately; condition may be life-threatening.
● Monitor for withdrawal symptoms (joint or muscular pain, lassitude, depression) during withdrawal from oral corticosteroids.
● Monitor growth rate in children receiving chronic therapy; use lowest possible dose.

Drug-Drug: None known.

Lab Test Considerations
Periodic adrenal function tests may be ordered to assess degree of hypothalamic-pituitary-adrenal (HPA) axis suppression in patients changing from systemic to inhalation corticosteroids.

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Sub Test Considerations
Periodic adrenal function tests may be ordered to assess degree of hypothalamic-pituitary-adrenal (HPA) axis suppression in patients changing from systemic to inhalation corticosteroids.
chronic therapy. Children and patients using higher than recommended doses are at greatest risk for HPA suppression.

● May cause increased serum and urine glucose concentrations if significant absorption occurs.

Potential Nursing Diagnoses

Indications of Absorption (Indications)

Potential Nursing Diagnoses

Risk for infection (Side Effects)

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

Implementation

● After the desired clinical effect has been obtained, attempts should be made to decrease dose to lowest amount required to control symptoms. Gradually decrease dose every 2–4 wk as long as desired effect is maintained. If symptoms return, dose may briefly return to starting dose.

● Inhaln:

   Allow at least 1 min between inhalations of aerosol medication.

Patient/Family Teaching

● Advise patient to take medication exactly as directed. If a dose is missed, take as soon as remembered unless almost time for next dose. Advise patient not to discontinue medication without consulting health care professional; gradual decrease is required.

● Advise patients using inhalation corticosteroids and bronchodilator to use bronchodilator first and to allow 5 min to elapse before administering the corticosteroid, unless otherwise directed by health care professional.

● Advise patients that inhalation corticosteroids should not be used to treat an acute asthma attack but should be continued even if other inhalation agents are used.

● Advise patient that systemic corticosteroids should be considered for acute asthma. Advise patients to use regular peak flow monitoring to determine respiratory status.

● Caution patient to avoid smoking, known allergens, and other respiratory irritants.

● Advise patient that smoking can worsen symptoms.

● Advise patient whose systemic corticosteroids have recently been reduced or withdrawn to carry a written card indicating the need for supplemental systemic corticosteroids in the event of stress or severe asthma attack unresponsive to bronchodilators.

● Metered-Dose Inhaler: Instruct patient in the proper use of the metered-dose inhaler. Inhale slowly and deeply and slowly press down canister. Hold breath for as long as possible to ensure deep instillation of medication. Remove inhaler from mouth and breathe normally. Allow 1–2 min between inhalations. Rinse mouth with water or mouthwash after each use to minimize fungal infections, dry mouth, and hoarseness. Clean only the mouthpiece weekly with a clean dry cloth. Do not place in water.

Evaluation/Desired Outcomes

● Management of the symptoms of chronic asthma

● Improvement in asthma symptoms

Why was this drug prescribed for your patient?