Dexamethasone Sodium Phosphate Injection IP

**DESCRIPTION**

Glucocorticoids are adrenocortical steroids, whether naturally occurring or synthetic, are readily absorbed from the gastrointestinal tract. Dexamethasone is a synthetic adrenocortical steroid, is a white to practically white, odorless, crystalline powder. It is stable in air. It is practically insoluble in water. The molecular weight is 392.47. It is designated chemically as 9-fluoro-11 beta,17,21-trihydroxy-16 alpha methylpregna-1,4-diene-3,20-dione. The empirical formula is C22 H29 O2 and the structural formula is:

For the use of Registered Medical Practitioner or Hospital or a Laboratory only.

**DOSAGE AND ADMINISTRATION**

**HOW SUPPLIED**

**WARNING**

In patients on corticosteroid therapy subjected to unusual stress, increased dosage of rapidly acting corticosteroids before, during and after the stressful situation is indicated. Drug-induced secondary adrenal insufficiency may result from too rapid withdrawal of corticosteroids and may be minimized by gradual reduction of dosage. This type of relative insufficiency may persist for months after discontinuation of therapy; therefore, if any situation of stress occurring during that period, hormone therapy should be reinstated. If the patient is receiving steroids already, dosage may have to be increased. Since mineralocorticoid secretion may be impaired, salt and/or a mineralocorticoid should be administered concurrently (See precautions). Corticosteroids may mask some signs of infection, and new infections may appear during their use. There may be decreased resistance and inability to localize infection when corticosteroids are used. Moreover, corticosteroids may affect the nitroblue-tetrazolium test for bacterial infection and produce false negative results. 

In cerebral malaria, a double-blind trial has shown that the use of corticosteroids is associated with prolongation of coma and a higher incidence of pneumonia and gastrointestinal bleeding. Corticosteroids may activate latent tuberculosis. Therefore, it is recommended that latent or active tuberculosis be ruled out before initiating corticosteroid therapy in any patient who has spent time in the tropics or any patient with unexplained disorders.

Prolonged use of corticosteroids may produce posterior subcapsular cataracts, glaucoma with possible damage to the optic nerves, and may enhance the establishment of secondary ocular infections due to fungi or viruses.

Usage in pregnancy: Since adequate human reproduction studies have not been done with corticosteroids, use of these drugs in pregnancy or in women of childbearing potential requires that the anticipated benefits be weighed against the possible hazards to the mother and embryo or fetus. Infants born of mothers who have received substantial doses of corticosteroids during pregnancy should be carefully observed for signs of hypoadrenalinism.

Corticosteroids appear in breast milk and could suppress growth, interfere with endogenous corticosteroid production, or cause other unwanted effects. Mothers taking pharmacologic doses of corticosteroids should be advised not to nurse.

Average and large doses of hydrocortisone or cortisone can cause elevation of blood pressure, salt and water retention, and increased excretion of potassium. These effects are less likely to occur with the synthetic derivatives except when used in large doses. Dietary salt restriction and potassium supplementation may be necessary. All corticosteroids increase calcium excretion, and patients receiving corticosteroids as replacement therapy, e.g., for Addison's disease. 

Patients who are on drugs which suppress the immune system are more susceptible to infections from healthy individuals. Chickenpox, and measles, for example, can have a more serious or even fatal course in non-immune patients on corticosteroids. In such patients who have not had these diseases, particular care should be taken to avoid exposure. The risk of developing a disseminated infection varies among individuals and can be related to the dose, route and duration of corticosteroids administration as well as to the underlying disease. If exposed to chickenpox, prophylaxis with varicella zoster immunoglobulin (VZIG) may be indicated. If chickenpox develops, treatment with anti viral agents may be considered. If exposed to measles, prophylaxis with immunoglobulin (IG) may be indicated. (See the respective packaging inserts for VZIG and IG for further prescribing information.)

Similarly, corticosteroids should be used with great care in patients with known or suspected strongylid (threadworm) infestation. In such patients corticosteroid-induced immunosuppression may lead to strongylid hypophysiation and dissemination with widespread larval migration, often complicated by severe enterocolitis and potentially fatal granulomatous enteritis. The use of DEXAM™ tablets/ injections in active tuberculosis should be restricted to those cases of fulminating or disseminated tuberculosis in which the corticosteroid is used for the management of the disease in conjunction with an appropriate antitubercular regimen.

If corticosteroids are indicated in patients with latent tuberculosis or tuberculin reactivity close observation is necessary as reactivation of the disease may occur. During prolonged corticosteroid therapy, these patients should receive chemoprophylaxis. Literature reports suggest an apparent association between use of corticosteroids and left ventricular failure, wall rupture after recent myocardial infarction, therefore, therapy with corticosteroids should be used with great caution in these patients.

**CONTRAINDICATIONS**

Corticosteroids are contraindicated in active infection and additionally, the dose is titrated according to the individual response, both to corticosteroids and to the underlying disease. In cerebral edema, Dexamethasone Sodium Phosphate injection is generally administered initially in a dosage of cerebral edema. The initial dosage is usually between 5 and 8 mg per ml

**HOW SUPPLIED**

**MARKETED BY: Getwell Oncology Pvt. Ltd.**

(A unit of Getwell)

464, Udyog Vihar, Phase - V, Gurgaon -122 016, Haryana, India.

For Injection:

Manufactured by: Getwell Pharmaceuticals

474, Udyog Vihar, Phase - V, Gurgaon -122 016, Haryana, India.

For Tablet:

Manufactured by: Drugfarm Laboratories

Plot No. 507, M.I.E.

Bahadurgarh - 124 507, Haryana, India.

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For Tablet:

Manufactured by: Drugfarm Laboratories

Plot No. 507, M.I.E.

Bahadurgarh - 124 507, Haryana, India.
Each contains tablet contains: Dexamethasone 4mg & 8mg
Each ml contains: Dexamethasone Sodium Phosphate IP 4 mg Ep: to Dexamethasone Phosphate 0.15% Methylparaben IP 0.05% Propylparaben IP 0.02% (As Preservative) Water for injection IP q.s.

Actions
Naturally occurring glucocorticoids (hydrocortisone and cortisone), which also have salt-retaining properties are used as replacement therapy in adrenocortical deficiency states. Their synthetic analogs including dexamethasone are primarily used for their potent anti-inflammatory effects in disorders of many organ systems. Glucocorticoids cause profound and varied metabolic effects. In addition, they modify the body's immune responses to diverse stimuli. At equipotent anti-inflammatory doses, dexamethasone almost completely lacks the sodium retaining property of hydrocortisone and closely related derivatives of hydrocortisone.

Indications
1. Endocrine Disorders
   - Primary or secondary adrenocortical insufficiency (hydrocortisone or cortisone is the first choice; synthetic analogs may be used in conjunction with micronized corticosteroids where applicable, in infancy, mineralocorticoid supplementation is of particular importance).
   - Congenital adrenal hyperplasia
   - Nonneoplastic thyroiditis
   - Hypoplasmodia associated with cancer
2. Rheumatic Disorders
   - As adjunctive therapy for short term administration (to tide the patient over an acute episode or exacerbation in)
   - Post-streptococcal arthritis
   - Rheumatoid arthritis, including juvenile rheumatoid arthritis (selected cases may require low dose maintenance therapy)
   - Ankylosing spondylitis
   - Acute and subacute bursitis
   - Acute nonspecific tenosynovitis
   - Acute gonitis arthritis
   - Post-traumatic osteoarthritis
   - Synovitis of osteoarthritis
   - Epicondylitis
3. Collagen Diseases
   - During exacerbation or as maintenance therapy in selected cases of
     - Systemic lupus erythematosus
     - Acute rheumatic carditis
4. Dermatologic Diseases
   - Pemphigus
   - Bullous dermatitis herpetiformis
   - Severe erythema multiforme (Stevens-Johnson syndrome)
   - Exfoliative dermatitis
   - Mycosis fungoides
   - Severe psoriasis
   - Severe seborrheic dermatitis
5. Allergic States
   - Control of severe or incapacitating allergic conditions intractable to adequate trials of conventional treatment:
     - Seasonal or perennial allergic rhinitis
     - Bronchial asthma
     - Contact dermatitis
     - Atopic dermatitis
     - Serum sickness
     - Drug hypersensitivity reactions
6. Ophthalmic Diseases
   - Severe acute and chronic allergic and inflammatory processes involving the eye and its adnexa, such as:
     - Allergic conjunctivitis
     - Keratitis
     - Allergic conjunctival or marginal ulcers
     - Herpes zoster ophthalmicus
     - Iritis and iridocyclitis
     - Chemosis
     - Anterior segment inflammation
     - Diffuse posterior uveitis and choroiditis
     - Optic neuritis
     - Sympathetic ophthalmia
7. Respiratory Diseases
   - Symptomatic sarcoidosis
   - Loeffler's syndrome not manageable by other means (erythroid hypoplastic anemia.
   - Pulmonary fibrosis or disseminated pulmonary tuberculosis when used concurrently with appropriate antituberculous chemotherapy
   - Aspiration pneumoniitis
8. Hematologic Disorders
   - Idiopathic thrombocytopenic purpura in adults
   - Secondary thrombocytopenia in adults
   - Acquired (autoimmune) hemolytic anemia
   - Elhroythombopenia (RBC anemia)
   - Congenital (erythroid) hypoplastic anemia.
9. Neoplastic Diseases
   - For palliative management of:
     - Leukemias and lymphomas in adults
     - Congenital (erythroid) hypoplastic anemia.
   - Erythroblastopenia (RBC anemia)
   - Secondary thrombocytopenia in adults
   - Acute lymphoblastic leukemia
   - Chronic lymphocytic leukemia
   - Langerhans' cell histiocytosis
   - Multiple myeloma
   - Proliferative myelofibrosis
10. Edematous States
    - Leukemias and lymphomas in adults
    - For palliative management of:
11. Gastrointestinal Diseases
    - To tide the patient over a critical period of the disease in:
      - Ulcerative colitis
      - Regional enteritis
12. Cerebral Edema
    - Associated with primary or metastatic brain tumor, cranialotomy, or head injury.

Compositions
- Each contains tablet contains: Dexamethasone 4mg & 8mg
- Each ml contains: Dexamethasone Sodium Phosphate IP 4 mg Ep: to Dexamethasone Phosphate 0.15% Methylparaben IP 0.05% Propylparaben IP 0.02% (As Preservative) Water for injection IP q.s.

Contraindications
- Systemic fungal infections, Hypersensitivity to this drug.

Precautions
- Following prolonged therapy, withdrawal of corticosteroids may result in symptoms of the corticosteroid withdrawal syndrome including fever, myalgia, arthralgia, and malaise.
- This may occur in patients even without evidence of adrenal insufficiency. There is an enhanced effect of corticosteroids in patients with hypothyroidism and in those with cirrhosis.
- Corticosteroids should be used cautiously in patients with necrotic lesions simple because of possible corneal perforation.
- The lowest possible dose of corticosteroids should be used to control the condition under treatment, and when reduction in dosage is possible, the reduction should be gradual.
- Psychic derangements may appear when corticosteroids are used, ranging from euphoria, insomnia, mood swings, personality changes, and severe depression, to frank psychotic manifestations. Also, existing emotional instability or psychotic tendencies may be aggravated by corticosteroids.
- Co-administration of thalidomide with DEXAMETASONE tablets / injection should be employed cautiously, as toxic epidermal necrolysis has been reported with concomitant use.
- Aspirin should be used cautiously in conjunction with corticosteroids in hypertriglyceremia since it should be used with caution in nonspicive ulcerative colitis, if there is a probability of impending perforation, abscess, or other gastrointestinal infection, diverticulitis, fistuloin intestinal fistulas, active or latent peptic ulcer, renal insufficiency, hypertension, osteoporosis and myasthenia gravis. Signs of peritoneal irritation following gastrointestinal perforation in patients receiving large doses of corticosteroids may be minimal or absent. Fat embolism has been reported as a possible complication of corticosteroid usage.
- When large doses are given, some authorities advise that corticosteroids be taken with meals and antacids taken between meals to help prevent peptic ulcer.
- Steriod inhibition of response to corticotropin, although there have been some conflicting reports of potentiation and inhibition of response to corticotropin (DST) in patients being treated with corticosteroids.
- Cross-sensitivity may be minimal or absent. Fat embolism has been reported as a possible complication of corticosteroid usage.
- In post-marketing experience, there have been reports of both increases and decreases in phenytoin levels with dexamethasone co-administration, leading altogether in seizure control.
- Although ketoneamine may increase dexamethasone plasma concentrations through inhibition of CYP 3A4, ketoneamine alone can inhibit adrenal corticosteroid synthesis and may cause adrenal insufficiency during corticosteroid withdrawal (see WARNINGS).
- Ephedrine may enhance the metabolic clearance of corticosteroids, resulting in decreased blood levels and decreased physiologic activity, thus requiring and increasing in corticosteroids dosage.
- Dexamethasone is metabolized by CYP 3A4. Concomitant administration of dexamethasone with inducers of CYP 3A4 (as listed above) has the potential to result in decreased plasma concentrations of dexamethasone in addition, concomitant administration of dexamethasone with known inhibitors of CYP 3A4 (e.g. ketoconazole, macrolide antibiotics such as erythromycin) has the potential to result in increased plasma concentrations of dexamethasone. Effect of other drugs on the metabolism of dexamethasone may interfere with dexamethasone suppression tests, which should be interpreted with caution during administration of such drugs.
- Dexamethasone is a moderate inducer of CYP 3A4. Co-administration of dexamethasone with other drugs that are metabolized CYP 3A4 (e.g. lindane, erythromycin) may increase their clearance, resulting in decreased plasma concentrations.
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- Ephedrine may enhance the metabolic clearance of corticosteroids, resulting in decreased blood levels and decreased physiologic activity, thus requiring and increasing in corticosteroids dosage.
- False – negative results in the dexamethasone suppression test (DST) in patients being treated with indomethacin have been reported. Thus, the result of the DST should be interpreted with caution in these patients.
- The prothrombin time should be checked frequently in patients who are receiving corticosteroids and concomitant anticoagulants at the same time because of reports that corticosteroids have altered the response to these anticoagulants. Studies have shown that the usual effect produced by adding corticosteroids is inhibition of responsiveness to coumarins, although there have been some conflicting reports of potentiation and substantiated by studies.
- When corticosteroids are administered concomitantly with potassium-depleting diuretics, patients should be observed closely for development of hypokalemia.
- Information for patients
- Susceptible patients who are on immunosuppressant doses of corticosteroids should be warned to avoid exposure to chickenpox or measles. Patients should also be advised that if they are exposed, medical advice should be sought without delay.
- Pediatric Use
- Growth and development of pediatric on prolonged corticosteroid therapy should be carefully followed.

Adverse Reactions
- Fluid and Electrolyte Disturbances
  - Sodium retention
  - Fluid retention
  - Congestive heart failure in susceptible patients
  - Potassium loss
  - Hypokalemic alkalosis
  - Hypertension
- Musculoskeletal
  - Muscle weakness
  - Steroid myopathy
  - Loss of muscle mass
  - Osteoporosis
  - Vertebral compression fractures
  - Acute necrosis of femoral and humeral heads
  - Pathologic fracture of long bones
  - Tendon rupture
- Gastrointestinal
  - Peptic ulcer with possible perforation and hemorrhage
  - Perforation of the small and large bowel, particularly in patients with inflammatory bowel disease.
  - Pancreatitis
  - Abdominal distention
  - Ulcerative colitis
- Dermatologic
  - Impaired wound healing
  - Thin fragile skin
  - Petechiae and ecchymoses
  - Erythema
  - Increased sweating
  - May suppress reactions to skin tests, other cutaneous reactions, such as allergic dermatitis, urticaria, anaphylactoid edema.
- Neurologic
  - Confusion
  - Increased intracranial pressure with papilledema (pseudotumor cerebri) usually after treatment
  - Vertigo
  - Dizziness
  - Psychotic disturbances
- Endocrine
  - Menstrual irregularities
  - Development of cushingoid state
  - Suppression of growth in children
- Secondary adrenocortical and pituitary unresponsiveness, particularly in times of stress, as in trauma, surgery, or illness.