

Betamethasone valerate

Betnovate[®]

Cream, Ointment, Lotion

PRODUCT DESCRIPTION

Each gram of *Betnovate*[®] Cream contains 1 milligram of betamethasone (as valerate).

Each gram of *Betnovate*[®] Ointment contains 1 milligram of betamethasone (as valerate).

Each milliliter of *Betnovate*[®] Lotion contains 1 milligram of betamethasone (as valerate).

PHARMACOLOGIC PROPERTIES

Pharmacodynamics

ATC code

D07AC Corticosteroids, potent (group III)

Mechanism of action

Topical corticosteroids act as anti-inflammatory agents via multiple mechanisms to inhibit late phase allergic reactions including decreasing the density of mast cells, decreasing chemotaxis and activation of eosinophils, decreasing cytokine production by lymphocytes, monocytes, mast cells and eosinophils, and inhibiting the metabolism of arachidonic acid.

Pharmacodynamic effects

Topical corticosteroids have anti-inflammatory, antipruritic, and vasoconstrictive properties.

Pharmacokinetics

Absorption

Topical corticosteroids can be systemically absorbed from intact healthy skin. The extent of percutaneous absorption of topical corticosteroids is determined by many factors, including the vehicle and the integrity of the epidermal barrier. Occlusion, inflammation and/or other disease processes in the skin may also increase percutaneous absorption.

Distribution

The use of pharmacodynamic endpoints for assessing the systemic exposure of topical corticosteroids is necessary because circulating levels are well below the level of detection.

Metabolism

Once absorbed through the skin, topical corticosteroids are handled through pharmacokinetic pathways similar to systemically administered corticosteroids. They are metabolised, primarily in the liver.

Elimination

Topical corticosteroids are excreted by the kidneys. In addition, some corticosteroids and their metabolites are also excreted in the bile.

Pre-Clinical Safety Data

Carcinogenesis / Mutagenesis

Carcinogenesis

Long-term animal studies have not been performed to evaluate the carcinogenic potential of betamethasone valerate.

Genotoxicity

No specific studies have been conducted to investigate the genotoxic potential of betamethasone valerate

Fertility

The effect on fertility of betamethasone valerate has not been evaluated in animals.

Pregnancy

Subcutaneous administration of betamethasone valerate to mice or rats at doses ≥ 0.1 mg/kg/day or rabbits at doses ≥ 12 micrograms/kg/day during pregnancy produced foetal abnormalities including cleft palate.

INDICATIONS

Betamethasone valerate (*Betnovate*[®]) is a potent topical corticosteroid indicated for adults, elderly and children over 1 year for the relief of the inflammatory and pruritic manifestations of steroid responsive dermatoses. These include the following:

- Atopic dermatitis (including infantile atopic dermatitis)
- Nummular dermatitis (discoid eczema)
- Prurigo nodularis
- Psoriasis (excluding widespread plaque psoriasis)
- Lichen simplex chronicus (neurodermatitis) and lichen planus
- Seborrhoeic dermatitis
- Irritant or allergic contact dermatitis
- Discoid lupus erythematosus
- Adjunct to systemic steroid therapy in generalised erythroderma
- Insect bite reactions
- Miliaria (prickly heat)

DOSAGE AND ADMINISTRATION

Adults, Elderly and Children over 1 year

Creams are especially appropriate for moist or weeping surfaces.

Ointments are especially appropriate for dry, lichenified or scaly lesions.

Lotions are especially appropriate for treatment of hairy areas or when a minimal application to a large area is required.

Apply thinly and gently rub in using only enough to cover the entire affected area once or twice daily for up to 4 weeks until improvement occurs, then reduce the frequency of application or change the treatment to a less potent preparation. Allow adequate time for absorption after each application before applying an emollient.

In the more resistant lesions, such as the thickened plaques of psoriasis on elbows and knees, the effect of Betamethasone valerate (*Betnovate*[®]) can be enhanced, if necessary, by occluding the treatment area with polythene film. Overnight occlusion only is usually

adequate to bring about a satisfactory response in such lesions; thereafter, improvement can usually be maintained by regular application without occlusion.

If the condition worsens or does not improve within 2-4 weeks, treatment and diagnosis should be re-evaluated.

Due to the flammable nature of Betamethasone valerate (Betnovate®) Lotion, patients should avoid smoking or being near an open flame during application and immediately after use.

Atopic dermatitis (eczema)

Therapy with Betamethasone valerate (Betnovate®) should be gradually discontinued once control is achieved and an emollient continued as maintenance therapy.

Rebound of pre-existing dermatoses can occur with abrupt discontinuation of Betamethasone valerate (Betnovate®).

Recalcitrant dermatoses

Patients who frequently relapse

Once an acute episode has been treated effectively with a continuous course of topical corticosteroid, intermittent dosing (once daily, twice weekly, without occlusion) may be considered. This has been shown to be helpful in reducing the frequency of relapse.

Application should be continued to all previously affected sites or to known sites of potential relapse. This regime should be combined with routine daily use of emollients. The condition and the benefits and risks of continued treatment must be re-evaluated on a regular basis.

Children

Betamethasone valerate (Betnovate®) is contraindicated in children under one year of age.

Children are more likely to develop local and systemic side effects of topical corticosteroids and, in general, require shorter courses and less potent agents than adults.

Care should be taken when using Betamethasone valerate (Betnovate®) to ensure the amount applied is the minimum that provides therapeutic benefit.

Elderly

Clinical studies have not identified differences in responses between the elderly and younger patients. The greater frequency of decreased hepatic or renal function in the elderly may delay elimination if systemic absorption occurs. Therefore the minimum quantity should be used for the shortest duration to achieve the desired clinical benefit.

Renal / Hepatic Impairment

In case of systemic absorption (when application is over a large surface area for a prolonged period) metabolism and elimination may be delayed therefore increasing the risk of systemic toxicity. Therefore the minimum quantity should be used for the shortest duration to achieve the desired clinical benefit.

CONTRAINDICATIONS

The following conditions should not be treated with Betamethasone valerate (Betnovate®):

- Untreated cutaneous infections
- Rosacea
- Acne vulgaris
- Pruritus without inflammation
- Perianal and genital pruritus
- Perioral dermatitis

Betamethasone valerate (Betnovate®) is contraindicated in dermatoses in infants under one year of age, including dermatitis.

WARNINGS AND PRECAUTIONS

Betamethasone valerate (Betnovate®) should be used with caution in patients with a history of local hypersensitivity to corticosteroids or to any of the excipients in the preparation. Local hypersensitivity reactions (see *Adverse Effects*) may resemble symptoms of the condition under treatment.

Manifestations of hypercortisolism (Cushing's syndrome) and reversible hypothalamic-pituitary-adrenal (HPA) axis suppression, leading to glucocorticosteroid insufficiency, can occur in some individuals as a result of increased systemic absorption of topical steroids. If either of the above are observed, withdraw the drug gradually by reducing the frequency of application, or by substituting a less potent corticosteroid. Abrupt withdrawal of treatment may result in glucocorticosteroid insufficiency (see *Adverse Effects*).

Risk factors for increased systemic effects are:

- Potency and formulation of topical steroid
- Duration of exposure
- Application to a large surface area
- Use on occluded areas of skin e.g. on intertriginous areas or under occlusive dressings (in infants the nappy may act as an occlusive dressing)
- Increasing hydration of the stratum corneum
- Use on thin skin areas such as the face
- Use on broken skin or other conditions where the skin barrier may be impaired
- In comparison with adults, children may absorb proportionally larger amounts of topical corticosteroids and thus be more susceptible to systemic adverse effects. This is because children have an immature skin barrier and a greater surface area to body weight ratio compared with adults.

Children

In infants and children under 12 years of age, long-term continuous topical corticosteroid therapy should be avoided where possible, as adrenal suppression can occur.

Infection risk with occlusion

Bacterial infection is encouraged by the warm, moist conditions within skin folds or caused by occlusive dressings. When using occlusive dressings, the skin should be cleansed before a fresh dressing is applied.

Use in psoriasis

Topical corticosteroids should be used with caution in psoriasis as rebound relapses, development of tolerances, risk of generalised pustular psoriasis and development of local or systemic toxicity due to impaired barrier function of the skin have been reported in some cases. If used in psoriasis careful patient supervision is important.

Application to the face

Prolonged application to the face is undesirable as this area is more susceptible to atrophic changes

Application to the eyelids

If applied to the eyelids, care is needed to ensure that the preparation does not enter the eye, as cataract and glaucoma might result from repeated exposure.

Concomitant infection

Appropriate antimicrobial therapy should be used whenever treating inflammatory lesions which have become infected. Any spread of infection requires withdrawal of topical corticosteroid therapy and administration of appropriate antimicrobial therapy.

Chronic leg ulcers

Topical corticosteroids are sometimes used to treat the dermatitis around chronic leg ulcers. However, this use may be associated with a higher occurrence of local hypersensitivity reactions and an increased risk of local infection.

Effects on Ability to Drive and Use Machines

There have been no studies to investigate the effect of Betamethasone valerate (*Betnovate*[®]) on driving performance or the ability to operate machinery. A detrimental effect on such activities would not be anticipated from the adverse reaction profile of topical Betamethasone valerate (*Betnovate*[®]).

DRUG INTERACTIONS

Co-administered drugs that can inhibit CYP3A4 (e.g. ritonavir, itraconazole) have been shown to inhibit the metabolism of corticosteroids leading to increased systemic exposure. The extent to which this interaction is clinically relevant depends on the dose and route of administration of the corticosteroids and the potency of the CYP3A4 inhibitor.

PREGNANCY AND LACTATION

There are limited data from the use of Betamethasone valerate (*Betnovate*[®]) in pregnant women.

Topical administration of corticosteroids to pregnant animals can cause abnormalities of foetal development (*see Pre-clinical Safety Data*).

The relevance of this finding to human beings has not been established; however, administration of Betamethasone valerate (*Betnovate*[®]) during pregnancy should only be considered if the expected benefit to the mother outweighs the risk to the foetus. The minimum quantity should be used for the minimum duration.

The safe use of topical corticosteroids during lactation has not been established.

It is not known whether topical administration of corticosteroids could result in sufficient systemic absorption to produce detectable amounts in breast milk. Administration of Betamethasone valerate (*Betnovate*[®]) during lactation should only be considered if the expected benefit to the mother outweighs the risk to the infant.

If used during lactation Betamethasone valerate (*Betnovate*[®]) should not be applied to the breasts to avoid accidental ingestion by the infant.

There are no data in humans to evaluate the effect of topical corticosteroids on fertility.

ADVERSE EFFECTS

Adverse drug reactions (ADRs) are listed below by MedDRA system organ class and by frequency. Frequencies are defined as: very common ($\geq 1/10$), common ($\geq 1/100$ and $< 1/10$), uncommon ($\geq 1/1,000$ and $< 1/100$), rare ($\geq 1/10,000$ and $< 1/1,000$) and very rare ($< 1/10,000$), including isolated reports.

Post-marketing data

Infections and Infestations

Very rare Opportunistic infection

Immune System Disorders

Very rare Local hypersensitivity

Endocrine Disorders

Very rare Hypothalamic-pituitary adrenal (HPA) axis suppression Cushingoid features (e.g. moon face, central obesity), delayed weight gain/growth retardation in children, osteoporosis, glaucoma, hyperglycaemia/gluco-suria, cataract, hypertension, increased weight/obesity, decreased endogenous cortisol levels, alopecia, trichorrhexis

Skin and Subcutaneous Tissue Disorders

Common Pruritus, local skin burning /skin pain

Very rare Allergic contact dermatitis /dermatitis, erythema, rash, urticaria, pustular psoriasis, skin thinning* / skin atrophy, skin wrinkling, skin dryness, striae, telangiectasias, pigmentation changes, hypertrichosis, exacerbation of underlying symptoms

General Disorders and Administration Site Conditions

Very rare Application site irritation/pain

*Skin features secondary to local and/or systemic effects of hypothalamic-pituitary adrenal (HPA) axis suppression.

OVERDOSAGE AND TREATMENT

Symptoms and signs

Topically applied betamethasone valerate may be absorbed in sufficient amounts to produce systemic effects. Acute overdosage is very unlikely to occur, however, in the case of chronic overdosage or misuse the features of hypercortisolism may occur (*see Adverse Effects*).

Treatment

In the event of overdose, Betamethasone valerate (*Betnovate*[®]) should be withdrawn gradually by reducing the frequency of application, or by substituting a less potent corticosteroid because of the risk of glucocorticosteroid insufficiency.

Further management should be as clinically indicated or as recommended by the national poisons centre, where available.

INCOMPATIBILITIES

No incompatibilities have been identified.

INSTRUCTIONS FOR USE/HANDLING

There are no special requirements for use or handling of this product.

STORAGE CONDITION

Cream and Ointment: Store below 30°C.

Lotion: Store below 30°C. Keep container tightly closed when not in use. Contents are flammable. Keep away from fire, flame or heat. Do not leave Betamethasone valerate (*Betnovate*[®]) Lotion in direct sunlight.

AVAILABILITY

*Betamethasone valerate (*Betnovate*[®]) 1 mg/g Cream: Packaging of 5 g tube (box of 1's).

*Betamethasone valerate (*Betnovate*[®]) 1 mg/g Ointment: Packaging of 5 g tube (box of 1's).

**Betamethasone valerate (*Betnovate*[®]) 1 mg/mL Lotion: Packaging of 20 mL bottle (box of 1's).

CAUTION

Foods, Drugs, Devices and Cosmetics Act prohibits dispensing without prescription.

Keep all medicines out of reach of children.

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