SUMMARY OF PRODUCT CHARACTERISTICS

1. NAME OF THE MEDICINAL PRODUCT

NORODEXA EYE DROPS (Dexamethasone Sodium Phosphate Ophthalmic Solution USP 0.1%w/v)

2. QUALITATIVE AND QUANTITATIVE COMPOSITION

Each ml contains
Dexamethasone Sodium Phosphate USP
Eq. to Dexamethasone Phosphate……0.1%w/v
Phenyl Mercuric Nitrate BP.....……..0.01% w/v
Sterile Aqueous Base…….Q.S.

3. PHARMACEUTICAL FORM

Dosage Form: Ophthalmic Solution
Description of Product: Clear colourless to almost colourless solution filled in 10ml plastic vials

4. Clinical particulars

4.1 Therapeutic indications

Non-infected, steroid responsive, inflammatory conditions of the eye

4.2 Posology and method of administration

Adults and the elderly

One or two drops should be applied topically to the eye up to six times a day. Note: In severe conditions the treatment may be initiated with 1 or 2 drops every hour, the dosage should then be gradually reduced as the inflammation subsides.

Paediatric population

At the discretion of the physician

Route of Administration:

Dexamethasone Sodium Phosphate Ophthalmic Solution is for instillation into the conjunctival sac only. It should never be injected subconjunctivally, nor should it be directly introduced into the anterior chamber of the eye.

4.3 Contraindications

Use is contra-indicated in herpes simplex and other viral diseases of the cornea and conjunctiva, fungal disease, ocular tuberculosis, untreated purulent infections and hypersensitivity to any component of the preparation.

In children, long-term, continuous corticosteroid therapy should be avoided due to possible adrenal suppression.

Hypersensitivity to the active substance or to any of the excipients

4.4 Special warnings and precautions for use

Care should be taken to ensure that the eye is not infected before Dexamethasone sodium phosphate 0.1% w/v Eye Drops, solution is used.

These drops should be used cautiously in patients with glaucoma and should be considered carefully in patients with a family history of this disease.

This medicinal product contains phosphates which may lead to corneal deposits or corneal opacity when topically administered. It should be used with caution in patients presenting with compromised cornea and in instances where the patient is receiving polypharmacy with other phosphate containing eye medications.

Topical corticosteroids should not be used for longer than one week except under ophthalmic supervision, as prolonged application to the eye of preparations containing corticosteroids has caused increased intraocular pressure. The dose of anti-glaucoma medication may need to be adjusted in these patients. Prolonged use may also increase the hazard of secondary ocular infections.

Contact lenses should not be worn during treatment with corticosteroid eye drops due to increased risk of infection.

Systemic absorption may be reduced by compressing the lacrimal sac at the medial canthus for a minute during and following the instillation of the drops. (This blocks the passage of drops via the naso-lacrimal duct to the wide absorptive area of the nasal and pharyngeal mucosa. It is especially advisable in children.)

4.5 Interaction with other medicinal products and other forms of interaction

The risk of increased intraocular pressure associated with prolonged corticosteroid therapy may be more likely to occur with concomitant use of anticholinergics, especially atropine and related compounds, in patients predisposed to acute angle closure.

The risk of corneal deposits or corneal opacity may be more likely to occur in patients presenting with compromised cornea and receiving polypharmacy with other phosphate containing eye medications.

The following drug interactions are possible, but are unlikely to be of clinical significance, following the use of Dexamethasone sodium phosphate 0.1% w/v Eye Drops, solution in the eye:

The therapeutic efficacy of dexamethasone may be reduced by phenytoin, phenobarbitone, ephedrine and rifampicin.

Glucocorticoids may increase the need for salicylates as plasma salicylate clearance is increased.

4.6 Pregnancy and Lactation

Topically applied steroids can be absorbed systemically and have been shown to cause abnormalities of foetal development in pregnant animals. Although the relevance of this finding to human beings has not been established, the use of Dexamethasone sodium phosphate 0.1% w/v Eye Drops, solution during pregnancy should be avoided.

Topically applied dexamethasone is not recommended in breastfeeding mothers, as it is possible that traces of dexamethasone may enter the breast milk.

4.7 Effects on ability to drive and use machines
Patients with blurred vision should refrain from driving a vehicle or operating machines.

4.8 Undesirable effects
Administration of Dexamethasone sodium phosphate 0.1% w/v Eye Drops, solution to the eye may rarely cause stinging, burning, redness or watering of the eyes.

Prolonged treatment with corticosteroids in high dosage is, rarely, associated with sub-capsular cataract. In diseases which cause thinning of the cornea or sclera, perforations of the globe have been known to occur. In addition, optic nerve damage and visual acuity and field defects may arise following long term use of this product.

The systemic effects of corticosteroids are possible with excessive use of steroid eye drops.

Cases of corneal calcification have been reported very rarely in association with the use of phosphate containing eye drops in some patients with significantly damaged corneas.

4.9 Overdose
Overdose is unlikely to occur

5. PHARMACOLOGICAL PROPERTIES

5.1 Pharmacodynamic properties

Pharmacotherapeutic group: Corticosteroids/ antiinfectives/ mydriatics in combination,

ATC code: S01CB01

Mechanism of action

Dexamethasone is a highly potent and long-acting glucocorticoid. It has an approximately 7 times greater anti-inflammatory potency than prednisolone, another commonly prescribed corticosteroid.

The actions of corticosteroids are mediated by the binding of the corticosteroid molecules to receptor molecules located within sensitive cells. Corticosteroid receptors are present in human trabecular meshwork cells and in rabbit iris ciliary body tissue.

Corticosteroids will inhibit phospholipase A2 thereby preventing the generation of substances which mediate inflammation, for example, prostaglandins. Corticosteroids also produce a marked, though transient, lymphocytopenia. This depletion is due to redistribution of the cells, the T lymphocytes being affected to a greater degree than the B lymphocytes. Lymphokine production is reduced, as is the sensitivity of macrophages to activation by lymphokines. Corticosteroids also retard epithelial regeneration, diminish post-inflammatory neo-vascularisation and reduce towards normal levels the excessive permeability of inflamed capillaries.

The actions of corticosteroids described above are exhibited by Dexamethasone sodium phosphate 0.1% w/v Eye Drops, solution and they all contribute to its anti-inflammatory effect.

Absorption

When given topically to the eye, dexamethasone is absorbed into the aqueous humour, cornea, iris, choroid, ciliary body and retina. Systemic absorption occurs but may be significant only at higher dosages or in extended paediatric therapy. Up to 90% of dexamethasone is absorbed when given by mouth; peak plasma levels are reached between 1 and 2 hours after ingestion and show wide individual variations.

Biotransformation

Dexamethasone sodium phosphate is rapidly converted to dexamethasone within the circulation. Up to 77% of dexamethasone is bound to plasma proteins, mainly albumin. This percentage, unlike cortisol, remains practically unchanged with increasing steroid concentrations. The mean plasma half life of dexamethasone is 3.6 ± 0.9h.

Distribution

Tissue distribution studies in animals show a high uptake of dexamethasone by the liver, kidney and adrenal glands; a volume of distribution has been quoted as 0.58 l/kg. In man, over 60% of circulating steroids are excreted in the urine within 24 hours, largely as unconjugated steroid.

Elimination

Dexamethasone also appears to be cleared more rapidly from the circulation of the foetus and neonate than in the mother; plasma dexamethasone levels in the foetus and the mother have been found in the ratio of 0.32:1.

5.3 Preclinical safety data

The use of corticosteroids, including Dexamethasone sodium phosphate 0.1% w/v Eye Drops, solution and its derivatives, in ophthalmology is well established. Little relevant toxicology has been reported, however, the breadth of clinical experience confirms its suitability as a topical ophthalmic agent.

6. PHARMACEUTICAL PARTICULARS

6.1 List of excipients

Phenyl Mercuric Nitrate, EDTA Di-Sodium, Sodium metabisulphite, Propylene Glycol

6.2 Incompatibilities

Not applicable.

6.3 Shelf life

24 months

6.4 Special precautions for storage
Store below 25°C. Do not freeze. Protect from light.

6.5 Nature and contents of container and special equipment for use, administration or implantation

Clear colorless solution to almost colourless filled in 10 ml plastic vials.

Secondary packaging

Each vial is packed in a unit carton.

6.6 Special precautions for disposal and other handling
No special requirements

7. APPLICANT/MANUFACTURER

NITIN LIFESCIENCES LIMITED
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