SUMMARY OF PRODUCT CHARACTERISTICS

1. NAME OF THE MEDICINAL PRODUCT

Brand Name	:	**DEXAGEN EYE & EAR DROPS 5 ML**
Generic Name	:	Dexamethasone Phosphate 0.1% w/v
Pharmaceutical Dosage Form	:	Eye & Ear Drops (sterile)

2. QUALITATIVE AND QUANTITATIVE COMPOSITION

Each 5 mL sterile solution contains Dexamethasone Sodium Phosphate 5.5 mg equivalent to Dexamethasone Phosphate 5.0 mg

For a full list of excipients, see section 6.1

3. PHARMACEUTICAL FORM

Eye & Ear Drops (sterile)

Clear transparent solution in 5 mL round ivory color plastic dropper bottle with plug and cap.

4. CLINICAL PARTICULARS

4.1 Therapeutic indications

Dexagen Eye & Ear Drops is indicated for the treatment of different types of eyes and ear disorder.

EYE:

Dexamethasone ophthalmic solution is indicated for the treatment of

•Allergic non-infectious blepharitis and conjunctivitis.

•Non-infectious keratitis, punctate keratitis, disciform keratitis.

•Inflammation of the anterior uvea (iritis, iridocyclitis).

•Scleritis, episcleritis and myositis.

•Post-operative management of cataract, strabismus & other ocular surgeries.

EAR:

Dexamethasone is indicated for the treatment of inflammatory conditions of the external auditory meatus to tympanic membrane such as allergic otitis externa, selected purulent and non-purulent Infective otitis externa.

4.2 Posology and method of administration

Eye: Instill one or two drops of solution into the conjunctival sac every hour during the day and every two hours during the night as initial therapy. When a favorable response is observed, reduce dosage to one drop every four hours.

Ear: Clean the aural canal thoroughly and sponge dry. Instill the solution directly into the aural canal. A suggested initial dosage is 3 or 4 drops two or three times a day. When a favorable response is obtained, reduce dosage gradually and eventually discontinue.

4.3 Contraindications

Injuries and ulcerating processes of the cornea, particularly those of bacterial or viral origin (herpes simplex, vaccinia), punulent infections of the conjunctiva and eyelids, tuberculosis, mycosis, glaucoma. Fungal diseases of ocular or auricular stnuctures, Hypersensitivity to any component of this product, Perforation of a dnum membrane.

4.4 Special warnings and special precautions for use

Corticosteroids may mask, activate or aggravate an infection of the eye. If no improvement is seen after a few days application, other form of treatment should be used.

4.5 Interaction with other FPPs and other forms of interaction

Specific drug interaction studies have not been conducted with Dexamethasone.

4.6 Fertility, pregnancy and lactation

Animal experiments with Dexamethasone have shown adverse effect on the fetus. However, no control human studies are available. Dexamethasone ophthalmic preparation should be used during pregnancy only if the potential benefit justifies the potential risk to the fetus.

4.7 Effects on ability to drive and use machines

It is suggested to consult with the doctor or pharmacist.

4.8 Undesirable effects

In predisposed patients, application of corticosteroids for a period of several weeks may cause a reversible rise in intraocular pressure. Pressure measurements at regular intervals are therefore essential.

4.9 Overdose

Overdose through local or accidental oral administration is not likely.

5. PHARMACOLOGICAL PROPERTIES

5.1 Pharmacodynamic properties

Pharmacotherapeutic group: Corticosteroids, plain.

ATC-code: S01 BA01

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, lymphocyte paenia. 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-vascularization and reduce towards normal levels the excessive permeability of inflamed capillaries.

The actions of corticosteroids described above are exhibited by dexamethasone and they all contribute to its anti-inflammatory effect.

5.2 Pharmacokinetic properties

<u>Absorption</u>

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.

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.

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

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

Special populations

Corticosteroids may mask, activate or aggravate an infection of the eye. If no improvement is seen after a few days application, other form of treatment should be used.

5.3 Preclinical safety data

Repeat dose topical ocular safety studies with dexamethasone in rabbits have shown systemic corticosteroid effects. Such effects are considered to be unlikely when dexamethasone eye drops are used as recommended. Dexamethasone was clastogenic in the in vitro human lymphocyte assay and in vivo in the mouse micronucleus assay at doses

in excess of those obtained following topical application. Conventional carcinogenicity studies with dexamethasone have not been performed. Dexamethasone has been found to be teratogenic in animal models. Dexamethasone induced abnormalities of fetal development including cleft palate, intra-uterine growth retardation and effects on brain growth and development. There are no other preclinical data of relevance to the prescriber which are additional to that included in other sections of the SPC.

6. PHARMACEUTICAL PARTICULARS

6.1 List of excipients

Sodium Perborate

Disodium Edetate

Hypromellose

Boric Acid

Borax (Sodium Borate / Sodium Tetraborate)

Polyoxyl 35 Castor Oil (Cremophor EL)

Water for Injections

6.2 Incompatibilities

In the formulation we have used the common excipients: Sodium Perborate, Disodium Edetate, Hypromellose (HPMC-2910,5cps, Boric Acid, Borax (Sodium Borate / Sodium Tetraborate), Polyoxyl 35 Castor Oil (Cremophor EL) & Water for Injections are widely used in pharmaceutical industry for a long time. Moreover, the stability study at accelerated and long-term condition was found satisfactory. In addition, Physico-chemical parameters comply with the specification during product release and stability study. So, it could be concluded that excipients used in the drug product are compatible with drug substances.

6.3 Shelf life

2 years (24 Months from the date of manufacturing)

6.4 Special precautions for storage

Store below 30'C and dry place, away from light. Keep out of the reach of children. Do not touch the dropper tip or tip of the tube since this may contaminate the solution & ointment. After one month of the opening do not use the medicine of dropper or tube.

6.5 Nature and contents of container

5 ml round Ivory color plastic dropper bottle with plug & cap.

The packaging material i.e container & plug material is Low Density Polyethylene(LDPE) and cap material is the combination of Low Density Polyethylene (LDPE) & High Density Polyethylene (HDPE).

6.6 Special precautions for disposal and other handling

Store below 30'C and dry place, away from light. Keep out of the reach of children. Do not touch the dropper tip or tip of the tube since this may contaminate the solution & ointment. After one month of the opening do not use the medicine of dropper or tube.

7. MARKETING AUTHORISATION HOLDER

7.1 Name and address of manufacturer

Name	:	**GENERAL Pharmaceuticals Ltd. (Unit: 2)**
Address	:	Karolshurichala, Kaliakair, Gazipur, Bangladesh
E-mail	:	gplfactoryu2@generalpharma.com

8. MARKETING AUTHORISATION NUMBER(S)

08099/09818/NMR/2022

9. DATE OF FIRST AUTHORISATION/RENEWAL OF THE AUTHORISATION

13-04-2018

10. DATE OF REVISION OF THE TEXT

08-07-2022