Summary of product characteristics

1. Name of the medicinal product:

Dexatobrin Opthalmic Suspension

2. Qualitative and quantitative composition:

Each 1 ml (suspension) contains:

Tobramycin	3 mg
Dexamethasone	1 mg

For excipients see section 6.

3. Pharmaceutical form:

Suspension

White to off-white suspension.

4. Clinical particulars:

4.1 Therapeutic indications:

- Ocular inflammations with bacterial infections due to bacteria susceptible to tobramycin, such as infections of palpebral and bulbar conjunctiva, cornea, and anterior segment of the globe.
- Chronic anterior uveitis and corneal injury from chemicals, radiation, burns, or penetration of foreign bodies.

4.2 Posology and method of administration

Ophthalmic suspension: Starting dose: 1 – 2 drops every 2 hours till improvement occurs. Then the dosage may be decreased to 1 – 2 drops every 4 – 6 hours.

Ophthalmic ointment: A small amount of the ointment (1 – 1.5 cm) should be applied to the lower eyelid twice daily in the morning and just before bedtime.

4.3 Contraindications

-Hypersensitivity to the product.

-Mycobacterial infections of the eye.

-Fungal and viral infections of the eye (e.g. Herpes simplex or dendritic keratitis).

4.4 Special warnings and precautions for use

-Prolonged therapy with Dexatobrin®, as with other antibiotics, may result in superinfection with nonsusceptible organisms, including fungi.

-Extended use of topical corticosteroid may cause glaucoma.

-Dexatobrin® should be used with caution in patients suffering from glaucoma.

-Contact lenses should be removed prior to administration of Dexatobrin®. Lenses may be re-inserted 15 minutes following administration of the drug.

4.5 Interaction with other medicinal products

- Concomitant use of topical steroids and topical NSAIDs may increase the potential for corneal healing problems.

- CYP3A4 inhibitors including ritonavir and cobicistat may increase systemic exposure resulting in increased risk of adrenal suppression/Cushing's syndrome. (See Section 4.4). The combination should be avoided unless the benefit outweighs the increased risk of systemic corticosteroid side effects, in which case patients should be monitored for systemic corticosteroid effects.

4.6 Pregnancy and lactation

Dexatobrin® should be used during pregnancy (Category C) only if the potential benefit justifies the potential risk to the fetus.
Dexatobrin® should be used with caution during lactation.

4.7 Effects on ability to drive and use machines

No studies on the effects on the ability to drive and use machines have been performed.

4.8 Undesirable effects

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Tabulated summary of adverse reactions

Adverse drug reactions from clinical trials (Table 7-1) are listed by MedDRA system organ class. Within each system organ class, the adverse drug reactions are ranked by frequency, with the most frequent reactions first. Within each frequency grouping, adverse drug reactions are presented in order of decreasing seriousness. In addition, the corresponding frequency category for each adverse drug reaction is based on the following convention (CIOMS III): very common (≥1/10); common (≥1/100 to <1/10); uncommon (≥1/1,000 to <1/100); rare (≥1/10,000 to <1/1,000); very rare (<1/10,000)

Table 3-1 Percentage of patients with adverse drug reactions in clinical trials [1]

System organ classification	Adverse reactions	Frequency category
Eye disorders	Intraocular pressure increased, eye pain, eye pruritus, ocular discomfort, eye irritation	Uncommon
	keratitis, eye allergy, vision blurred, dry eye, ocular hyperaemia	Rare
Gastrointestinal disorders	dysgeusia	Rare

Adverse drug reactions from spontaneous reports and literature cases (frequency not known)

The following adverse drug reactions have been derived from post-marketing experience with Tobradex Eye drops and Eye ointment via spontaneous case reports and literature cases. Because these reactions

are reported voluntarily from a population of uncertain size, it is not possible to reliably estimate their frequency which is therefore categorized as not known. Adverse drug reactions are listed according to system organ classes in MedDRA. Within each system organ class, ADRs are presented in order of decreasing seriousness.

Table 3-2 Adverse drug reactions from spontaneous reports and literature (frequency not known) [1]

System organ classification	Adverse reactions
Immune system disorders	anaphylactic reaction, hypersensitivity
Nervous system disorders	dizziness, headache
Eye disorders	eyelid oedema, erythema of eyelid, mydriasis, lacrimation increased
Gastrointestinal disorders	nausea, abdominal discomfort
Skin and subcutaneous tissue disorders	erythema multiforme, swelling of the face, rash, pruritus

Reporting of suspected adverse reactions: Healthcare professionals are asked to report any suspected adverse reactions via pharmacy and poisons board, Pharmacovigilance Electronic Reporting System (PvERS) https://pv.pharmacyboardkenya.org

4.9 Overdose

None Known.

5. Pharmacological properties

5.1 Pharmacodynamic properties

Pharmacotherapeutic group: anti-inflammatory agents and anti-infectives in combination; corticosteroids and anti-infectives in combination.
ATC code: S01CA01
Dexatobrin® contains the aminoglycoside antibiotic tobramycin and the anti-inflammatory corticosteroid dexamethasone. This combination exerts anti-inflammatory and antibacterial activity against inflammation and infections due to bacteria susceptible to tobramycin, such as Staphylococci, including S. aureus, S. epidermidis, Streptococci including some of group A- beta-hemolytic species, Streptococcus pneumoniae, Pseudomonas aeruginosa, Escherichia coli, Klebsiella pneumoniae, Enterobacter aerogenes, Proteus species, Haemophilus influenzae, and some Neisseria species.
Dexamethasone, being a potent anti-inflammatory agent, controls the undesirable phases of inflammation associated with bacterial infections.

5.2 Pharmacokinetic properties

Absorption

Tobramycin is poorly absorbed across the cornea and conjunctiva when administered by topical ocular route. A peak concentration of 3 micrograms/mL in aqueous humour after 2 hours was attained followed by a rapid decline after topical administration of 0.3%

tobramycin.
However, Tobradex delivers 542 ± 425 micrograms/mL tobramycin in human tears at 2 minutes after ocular dosing, a concentration that generally exceeds the MIC of the most resistant isolates (MICs > 64 micrograms/mL).

Peak dexamethasone concentrations in aqueous humour after administration of Tobradex Eye drops and Eye ointment were attained approximately at 2 hours with a mean value 32 ng/mL.

Systemic absorption of tobramycin after Tobradex Eye drops and Eye ointment administration was poor with plasma concentrations generally below the limit of quantitation.

Plasma concentrations of dexamethasone was observed but were very low with all values less than 1 ng/mL after Tobradex Eye drops and Eye ointment administration.
The bioavailability of oral dexamethasone ranged from 70 to 80% in normal subjects and patients.

Distribution
For tobramycin, systemic volume of distribution is 0.26 L/kg in man. Human plasma protein binding of tobramycin is low at less than 10%.

For dexamethasone, the volume of distribution at steady state was 0.58 L/kg after intravenous administration. The plasma protein binding of dexamethasone is 77%.

Biotransformation
Tobramycin is not metabolized while dexamethasone is principally metabolized to 6betahydroxydexamethasone along with the minor metabolite 6beta-hydroxy-20diydrodexamethasone.

Elimination
Tobramycin is excreted rapidly and extensively in the urine via glomerular filtration and primarily as unchanged drug. Systemic tobramycin clearance was 1.43 ± 0.34 mL/min/kg for normal weight patients after intravenous administration and its systemic clearance decreased proportionally to renal function. The plasma half-time for tobramycin is approximately 2 hours.

With dexamethasone after intravenous administration, the systemic clearance was 0.125 L/hr/kg with 2.6% of the dose recovered as unchanged parent drug while 70% of the dose was recovered as metabolites.
The half-life has been reported as 3 to 4 hours but was found to be slightly longer in males. This observed difference was not attributed to changes in dexamethasone systemic clearance but to differences in volume of distribution and body weight.

Linearity/non-linearity
Ocular or systemic exposure with increasing dosing concentrations of tobramycin after topical ocular administration of tobramycin has not been tested. Therefore, the linearity of exposure with topical ocular dose could not be established. Mean Cmax for
dexamethasone at a topical ocular dose concentration of 0.033% with 0.3% tobramycin appeared lower than with Tobradex with a value of approximately 25 ng/mL but this decrease was not proportional to dose

PK/PD relationship
A specific PK/PD relationship has not been established for Tobradex Eye drops and Eye ointment. Dexamethasone has demonstrated dose-independent pharmacokinetics in published animal studies.
Published *in vitro* and *in vivo* studies have shown that tobramycin features a prolonged post-antibiotic effect, which effectively suppresses bacterial growth despite low serum concentrations. Systemic administration studies of tobramycin have reported higher maximum concentrations with once daily compared to multiple daily dosing regimens. However, the weight of current evidence suggests that once daily systemic dosing is equally as efficacious as multiple-daily dosing. Tobramycin exhibits a concentrationdependent antimicrobial kill and greater efficacy with increasing levels of antibiotic above the MIC or minimum bactericidal concentration (MBC).

Special populations Pediatric patients (below 18 years)
Aminoglycosides including topical ocular tobramycin has been commonly used among children, infants and neonates to treat serious Gram-negative infections. Clinical pharmacology of tobramycin in children has been described after systemic administration.
Dexamethasone pharmacokinetics in pediatrics appears not to differ from adults after intravenous dosing.

Geriatric patients (65 years of age or above)
There is no change in tobramycin pharmacokinetics in older patients when compared to younger adults. No correlation between age and plasma concentrations of dexamethasone was observed after oral administration of dexamethasone as well.

Renal impairment
The pharmacokinetics of tobramycin or dexamethasone with Tobradex Eye drops and Eye ointment administration have not been studied in this patient population.

Hepatic impairment
The pharmacokinetics of tobramycin or dexamethasone with Tobradex Eye drops and Eye ointment administration have not been studied in this patient population.

Clinical Studies
Tobradex Eye ointment is a well-established product.

6. Pharmaceutical particulars:

6.1 List of excipients:

Benzalkonium chloride
Polysorbate 80
Disodium edetate
Hydroxypropyl methylcellulose E4
Sodium chloride
Sodium sulfate anhydrous
Sulfuric acid or sodium hydroxide
Water for injection.

6.2 Incompatibilities:

None known.

6.3 Shelf life:

2 years.
After the first opening of the container, the sterile ophthalmic suspension should not be used longer than four weeks.

6.4 Special precautions for storage:

Dexatobrin Ophthalmic Suspension: store at a temp not exceeding 27˚C.

6.5 Nature and contents of container:

Dexatobrin Ophthalmic Suspension: 5 ml Plastic dropper bottle.

6.6 Special precautions for disposal and other handling:

None.

7. Marketing authorisation holder:

Egyptian International Pharmaceutical Industries Company (EIPICO),
P. O. Box 149,
Egypt.

8. Marketing Authorization Number

H2025/CTD11082/22221

9. Date of first authorization/renewal of the authorization

09/07/2025

10. Date of revision of the text

24/08/2026