Ocutob-D

Eye Drops

Composition:

Each ml of Ocutob eye drops contains:

Tobramycin	0.3% w/v
Dexamethasone	0.1% w/v
Sterile aqueous vehicle	q.s

Pharmacokinetics

Tear film concentrations were studied in sixteen (16) healthy male and female subjects who were administered one drop of tobramycin solution in each eye daily for nine (9) consecutive days. It showed a significantly greater area under the tobramycin tear fluid concentration versus time curve (AUCI), a significantly greater area within the tobramycin tear fluid concentration versus time curve exceeding the minimal inhibitory concentration90 (AUC over MIC90), and a greater duration of time over which the tobramycin tear fluid concentrations remained above MIC90.

Mechanism of Action:

Ocutob-D contain bactericidal aminoglycoside antibiotic Tobramycin. Tobramycin produces its bactericidal action by binding with 30S subunit of the ribosome and inducing misreading of mRNA codons. Ocutob-D has a long post-antibiotic effect, which ensures the persistence of antimicrobial activity even when concentrations have fallen below the minimum inhibitory concentration. The antibacterial spectrum of Ocutob-D includes *Staphylococcus aureus*, *Staphylococcus epidermidis* (coagulase-positive and coagulase negative), *Streptococci* including Group A-beta-hemolytic species and Streptococcus pneumoniae, *Pseudomonas aeruginosa*, *Escherichia coli*, *Klebsiella pneumoniae*, *Enterobacter aerogenes*, *Proteus mirabilis*, *Morganella morganii*, *Proteus vulgaris*, *Haemophilus influenzae* and *H. aegyptius*. Ocutob-D is 2-4 times more active against *Pseudomonas* and *Proteus*, including those resistant to Gentamicin.

Dexamethasone in Ocutob-D is a potent corticosteroid that suppresses the inflammatory response to a variety of agent. Corticosteroids bind to the cytosolic glucocorticoid receptor (GR). This type of receptor is activated by ligand binding. After a hormone binds to the corresponding receptor, the newly formed receptor-ligand complex translocate itself into the cell nucleus, where it binds to glucocorticoid response elements (GRE) in the promoter region of the target genes resulting in the regulation of gene expression and modification of

transcription and, hence, protein synthesis in order to achieve inhibition of leukocyte infiltration at the site of inflammation, interference in the function of mediators of inflammatory response, suppression of humoral immune responses, and reduction in edema or scar tissue. The anti-inflammatory actions of dexamethasone are thought to involve phospholipase A_2 inhibitory proteins, lipocortins, which control the biosynthesis of potent mediators of inflammation such as prostaglandins and leukotrienes.

Indication:

- In intraocular infection and inflammation.

Contraindication:

The use of Ocutob-D is contraindicated in patients with known hypersensitivity to any of the ingredients of the formulation.

The use of Ocutob-D is also contraindicated in epithelial herpes simplex keratitis (dendritic keratitis), vaccinia, varicella and many other viral diseases of the cornea and conjunctiva, mycobacterial infection of the eye and fungal diseases of ocular structures.

Adverse effects:

The most frequent adverse reactions to ocular Tobramycin are hypersensitivity and localized toxicity including lid itching, swelling and conjunctival erythema. If topical ocular Tobramycin is administered concomitantly with systemic aminoglycoside antibiotics, care should be taken to monitor the total serum concentration.

The reactions due to the steroid component are elevation of intra-ocular pressure and infrequent optic nerve damage, posterior subcapsular cataract formation and delayed wound healing.

Warnings and Precautions:

As with other antibiotic preparations, prolonged use with Ocutob-D may result in overgrowth of non-susceptible organisms, including fungi. If super infection occurs, appropriate therapy should be initiated.
Sensitivity to topically applied aminoglycosides may occur in some patients. If a sensitivity reaction to Ocutob-D occurs, discontinue use.
Use of contact lenses should be discouraged in patients using Ocutob-D.
Safety and effectiveness in pediatric patients below the age of 2 years have not been established.

Use in special population:

1. **Pediatric**

Safety and effectiveness in pediatric patients below the age of two months has not been established.

2. **Geriatric**

No overall clinical differences in safety or effectiveness have been observed between elderly and younger patients.

3. **Liver impairment**

No data found.

4. **Renal failure**

No data found.

5. **Pregnancy and lactation**

Pregnancy Category C: Corticosteroids have been shown to be teratogenic in animal studies. Ocular administration of 0.1% Dexamethasone resulted in 15.6% and 32.3% incidence of fetal anomalies in two groups of pregnant rabbits. Fetal growth retardation and increased mortality rates have been observed in rats with chronic Dexamethasone therapy. Reproduction studies have been performed in rats and rabbits with Tobramycin at doses up to 100 mg/kg/day (equivalent to human doses of 16 and 32 mg/kg/day, respectively) and have revealed no evidence of impaired fertility or harm to the fetus. There are no adequate and well controlled studies in pregnant women. Ocutob-D ophthalmic solution should be used during pregnancy only if the potential benefit justifies the potential risk to the fetus.

Dosage:
As directed by physician.

Presentation:

5ml in plastic bottle.

Storage and handling:

Store at 2°C- 25°C (36°F - 77°F).