

**NKOYO GENTAMICIN
GENTAMICIN EYE/EAR DROPS/GENTAMICIN EYE DROPS BP**

INDIA

1.3.1 Summary of Product Characteristics (SmPC)

1. Name of Medicinal Product

NKOYO GENTAMICIN

GENTAMICIN EYE/EAR DROPS/GENTAMICIN EYE DROPS BP

2. Qualitative and Quantitative Composition

2.1. Qualitative declaration:

Composition of the Drug product:

Gentamicin Sulphate BP

Equivalent to Gentamicin Base0.3% w/v

Benzalkonium Chloride Solution BP ...0.01% v/v

(As Preservative)

Sterile Isotonic aqueous base.....Q.S.

Qualitative & Quantitative Composition Formula:

Batch Size: 950 Ltr

Sr. No.	Name of Ingredient	Specification	Label Claim Overage %	Qty/ml (mg)	Total Qty per Batch (kg)	Function
1.	Gentamicin base as Sulphate	BP	0.3% w/v	3.0 mg	2.850 kg	Active ingredients
2.	Benzalkonium Chloride solution	BP	0.01% w/v	0.0001 ml	0.095 ltrs	Preservative
3.	Borax	BP	0.15% w/v	1.5 mg	1.425mg	Buffering agent
4.	Disodium EDTA	BP	0.1% w/v	1.0 mg	0.950 kg	Chelating agent
5.	Sodium Sulphate	BP	0.01% w/v	0.1 mg	0.950 kg	Anti-oxidant
6.	Sodium Chloride	BP	0.80% w/v	8.0 mg	7.600 kg	Tonicity
7.	Sodium Hydroxide	BP	-	0.042 mg	0.038 kg	for pH adjustment
8.	Water for injection	BP	Q.S.	Q.S.	QS to 950 ltr	Vehicle

3. Pharmaceutical Form

Eye/Ear drops.

Sterile, isotonic solution in dropper bottles.

Clear colourless solution.

4. Clinical Particulars

4.1. Therapeutic indications:

Post Myocardial Infarction

Genticin eye/ear drops are indicated in adults and children:

1. For the treatment of superficial eye and ear infections caused by organisms sensitive to gentamicin.
2. For prophylaxis against infection in trauma of the eye or ear.

4.2 Posology and method of administration

Posology

Adults, the elderly and the paediatric population

Eyes: 1 or 2 drops should be instilled in the affected eye up to six times a day, or more frequently if required. (Severe infections may require 1 or 2 drops every fifteen to twenty minutes initially, reducing the frequency of instillation gradually as the infection is controlled).

Ears: The area should be cleaned and 2 - 3 drops instilled in the affected ear three to four times a day and at night, or more frequently if required.

Method of administration

Auricular and ocular use.

4.3 Contraindications

Hypersensitivity to the active substance or to any of the excipients listed in section 6.1

Myasthenia gravis

Known or suspected perforation of the ear drum.

4.4 Special warnings and precautions for use

Long-term continuous topical therapy should be avoided. Prolonged use may lead to skin sensitisation and the emergence of resistant organisms. Cross sensitivity with other aminoglycoside antibiotics may occur.

In severe infections, topical use of gentamicin should be supplemented with appropriate systemic antibiotic treatment.

Gentamicin may cause irreversible partial or total deafness when given systemically or when applied topically to open wounds or damaged skin. This effect is dose-related and is enhanced by renal and/or hepatic impairment and is more likely in the elderly.

The condition of the ear drum must always be checked before this medicinal product is prescribed. The medicinal product must not be used if the integrity of the ear drum cannot be guaranteed.

Irreversible toxic effects may result from direct contact of gentamicin with the middle and inner ear. The benefits of gentamicin therapy should be considered against the risk of infection itself causing hearing loss.

Contact lenses should be removed during the period of treatment of ocular infections.

Serious adverse reactions including neurotoxicity, ototoxicity and nephrotoxicity have occurred in patients receiving systemic gentamicin therapy. Although these effects have not been reported following topical otic use of gentamicin, caution is advised when used concomitantly with systemic aminoglycosides

4.5 Interaction with other medicinal products and other forms of interaction

Potent diuretics such as ethacrynic acid and furosemide are believed to enhance any risk of ototoxicity whilst amphotericin B, cisplatin and cyclosporine and cephalosporins are potential enhancers of nephrotoxicity.

Concurrent use with other potentially nephrotoxic or ototoxic drugs should be avoided unless considered essential by the physician.

Neuromuscular blockade and respiratory paralysis have been reported in patients from the administration of aminoglycosides to patients who have received curare-type muscle relaxants during anaesthesia.

4.6. Use in pregnancy and lactation:

Pregnancy

Safety for use in pregnancy has not been established. Gentamicin should only be used in pregnancy when considered essential by the physician, after careful assessment of the potential risks and benefits.

Breast-feeding

Safety for use in lactation has not been established. In the absence of gastrointestinal inflammation the amount of gentamicin ingested from the milk is unlikely to result in significant blood levels in breast-fed infants. Gentamicin should only be used in lactation when considered essential by the physician, after careful assessment of the potential risks and benefits.

4.7 Effects on ability to drive and use machines

Patients should be advised that the use of Gentamicin in the eye may cause transient blurring of vision. If affected, patients should not drive or operate machinery until vision has cleared.

4.8 Undesirable effects

Eye disorders	-local sensitivity: -blurred vision -eye irritation -burning sensation -stinging sensation -itching (eye pruritus)
Ear and labyrinth disorders	-local sensitivity -ototoxicity -vestibular disorder: -hearing loss
Skin and subcutaneous tissue disorders	-burning sensation -stinging -itching (pruritus):

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	-dermatitis.
Renal and urinary disorders	-nephrotoxicity* -acute renal failure

*Gentamicin may cause nephrotoxicity when given systemically. However, it is likely that systemic absorption following topical administration does not constitute a comparable risk.

In the event of irritation, sensitisation or super-infection, treatment should be discontinued and appropriate therapy instituted.

4.9. Overdose:

Symptoms

The oral ingestion of the contents of one bottle is unlikely to cause any significant adverse effect.

Management

Haemodialysis and peritoneal dialysis will aid the removal from blood but the former is probably more efficient. Calcium salts given intravenously have been used to counter the neuromuscular blockade caused by gentamicin.

5. PHARMACOLOGICAL PROPERTIES

5.1 Pharmacodynamic properties

Pharmacotherapeutic group: Anti-infectives

ATC code: S03AA06

Mechanism of action.

Gentamicin is a mixture of antibiotic substances produced by the growth of *Micromonospora purpurea*. It is a bactericidal antibiotic which acts by inhibiting protein synthesis. It has greater antibacterial activity than streptomycin, neomycin or kanamycin.

Gentamicin exerts a number of effects on cells of susceptible bacteria. It affects the integrity of the plasma membrane and the metabolism of RNA, but its most important effect is inhibition of protein synthesis at the level of the 30S ribosomal subunit.

5.2 Pharmacokinetic properties

Absorption

Topical application of gentamicin can result in some systemic absorption. Treatment of large areas can result in plasma concentrations of up to 1µg/ml.

Gentamicin is 70-85% bound to plasma albumin following administration.

Effective plasma concentration is 4 - 8ug/ml

The volume of distribution (V_D) is 0.3 l/kg

Elimination

> 90% Gentamicin is excreted unchanged in the urine by glomerular filtration.

$T_{1/2}$ = 2 - 3 hours in individuals with normal kidney function, but can be increased in cases of renal insufficiency.

The elimination rate constant is;

0.02 Hr⁻¹ for anuric patients*

0.30 Hr⁻¹ normal

*Therefore in those with anuria care must be exercised.

5.3 Preclinical safety data

Not relevant.

6. PHARMACEUTICAL PARTICULARS

6.1 List of Excipients

Sr. No.	Name of Ingredient	Specification
1.	Benzalkonium Chloride solution	BP
2.	Borax	BP
3.	Disodium EDTA	BP
4.	Sodium Sulphate	BP
5.	Sodium Chloride	BP
6.	Sodium Hydroxide	BP
7.	Water for injection	BP

6.2 Incompatibilities

None Known

6.3 Shelf life

36 years

6.4 Special precautions for storage

Keep in a cool & dark place

Protect from Light.

6.5 Nature and contents of container

NKOYO GENTAMICIN is packed in a 10 ml of plastic dropper bottle of Sterile, isotonic solution and such bottle are packed in a primary carton along with Nozzals, White cap & pack insert.

6.6 Special precautions for disposal and other handling

Use the solution within one month of opening the vial.

Not for injection

7- Marketing Authorization Holder:

NKOYO CHEMIST PVT. LTD.

18, Upkor Street, Fegge,

Onitha, Nigeria.

8- Marketing Authorization Number (s):

Product license / registration Number (s) -----

9- Manufacturer Name:

M/S. SWISS PARENTERALS LTD.

808,809 & 810,Kerala industrial Estate,G.I.D.C., Near bavla, Dist -Ahmedabad-382 220,

India
