Package leaflet: Information for the user

GENTAMICIN 10 MG/ML SOLUTION FOR INJECTION OR INFUSION

and

GENTAMICIN 40 MG/ML SOLUTION FOR INJECTION OR INFUSION

Read all of this leaflet carefully before you start taking this medicine because it contains important information for you.

- Keep this leaflet. You may need to read it again.
- If you have further questions, please ask your doctor or pharmacist.
- This medicine has been prescribed for you only. Do not pass it on to others. It may harm them, even if their signs of illness are the same as yours.
- If you get any side effects, talk to your doctor or pharmacist. This includes any possible side effects not listed in this leaflet. See section 4.

What is in this leaflet:

1. What Gentamicin is and what it is used for

The name of this medicine is Gentamicin 10 mg/ml Solution for Injection or Infusion and Gentamicin 40 mg/ml Solution for Injection or Infusion (called “Gentamicin” in this leaflet).

It contains a medicine called Gentamicin sulfate. This belongs to a group of antibiotics called aminoglycosides.

Gentamicin is used to treat infections caused by bacteria in adults and children including new-borns. This includes infections in:

- Your urinary tract (including your kidneys or bladder)

• Your chest (including your lungs)

• Your blood – this is sometimes called ‘bacteraemia’

• Other serious infections

2. What you need to know before you take Gentamicin

Do not take Gentamicin if:

• You have Myasthenia Gravis. This is a disease that causes muscle weakness

• You are allergic to Gentamicin or to any of the other ingredients of this medicine (listed in section 6). Signs of an allergic reaction include: a rash, swallowing or breathing problems, swelling of your lips, face, throat and tongue.

Do not take this medicine if any of the above applies to you. If you are not sure, talk to your doctor or pharmacist before taking Gentamicin.

Warning and precautions

Talk to your doctor or pharmacist before taking Gentamicin if:

• You are pregnant, might become pregnant, or think you may be pregnant

• You are breast-feeding (see ‘Pregnancy and breast-feeding’ section below)

• You have any muscle weakness problems

• You are extremely overweight

• You have kidney problems, are over 65 years of age

- You have pre-existing ear damage
- You experience severe diarrhoea.
- You know (or think) you have a mitochondrial disease (mutations in the parts of your cells which help make energy). Certain mitochondrial diseases may increase your risk of hearing loss with the product.
- if you have, or have a maternal history of mitochondrial mutation disease (a genetic condition) or loss of hearing due to antibiotic medicines, you are advised to inform your doctor or pharmacist before you take an aminoglycoside; certain mitochondrial mutations may increase your risk of hearing loss with this product. Your doctor may recommend genetic testing before administration of Gentamicin.

Your infection might not respond to Gentamicin if it did not respond to other aminoglycosides and you may show an allergic reaction to Gentamicin if you are already allergic to another aminoglycoside.

There is only limited experience on once daily dosing of Gentamicin in elderly patients.

If you are not sure if any of the above applies to you, talk to your doctor or pharmacist before taking Gentamicin.

Children

If you are less than 1 year old your doctor will need to keep a careful watch on you during your treatment to prevent damage to your ears. He may check your hearing, your balance, how your kidneys are working and the amount of Gentamicin in your blood.

Other medicines and Gentamicin

Tell your doctor or pharmacist if you are taking, have recently taken or might take any other medicines. This is because Gentamicin can affect the way some other medicines work. Also, some medicines can affect the way Gentamicin works.

In particular tell your doctor if you are taking any of the following:

• Medicines used to thin the blood such as warfarin: concomitant use of Gentamicin may increase their effects on the blood

• Medicines that may determine additional toxicity to kidneys and ear damage:

Water tablets or injections (diuretics) such as furosemide or etacrynic acid

Amphotericin B (used to treat fungal infections)

Cephalosporin antibiotics such as cephaloridine or other antibiotics

Ciclosporin (used in organ transplants or for severe skin problems)

Cisplatin (used to treat some cancers)

• Neostigmine or pyridostigmine (used to treat Myasthenia Gravis): their use may contrast the effect of Gentamicin

• Muscle relaxants and ether - sometimes used during operations which need an anaesthetic: Gentamicin can enhance their effects on nerve and muscle function.

- Methoxyflurane: Gentamicin may increase its kidney damaging effect.
- Carbenicillin: its use may decrease the quantity of Gentamicin in the blood in patients with pre-existing problems to kidneys

• Indometacin (used to treat pain or swelling): its use may increase the quantity of Gentamicin in the blood in neonates

- Bisphosphonates (used to treat osteoporosis): their use may increase the risk of excessive quantity of calcium in the blood.
- Botulinum toxin – used to lower the activity of overactive muscles. This is also sometimes used in cosmetic procedures (botox).

These medicines may increase the chances of getting certain side effects (see Section 4: Possible side effects). If you are unsure about any of the above, consult your doctor.

Pregnancy and breast-feeding

If you are pregnant or breast-feeding, think you may be pregnant or are planning to have a baby, ask your doctor or pharmacist for advice before taking this medicine.

Gentamicin should not be used during pregnancy.

Driving and using machines

Caution is advised when driving and using machines in view of the possible undesired effects such as dizziness and vertigo.

Gentamicin 10 mg/ml contains sodium metabisulfite, which may rarely cause severe allergic reactions and difficulty in breathing.
This medicine contains 0,78 mg of sodium per ampoule (less than 23 mg per ampoule), i.e. it is essentially sodium free.

Monitoring

To avoid adverse events, your doctor may consider monitoring hearing, balance, and renal function before, during and after treatment and serum Gentamicin concentrations during therapy.

3. How to take Gentamicin

Gentamicin is always given to you by a doctor or nurse. It is usually injected into a muscle but may also be injected into a vein in some patients.

If it is given into a vein, it can either be given as an injection or dissolved with, e.g. saline or 5% glucose in water and given as a slow injection via a drip (infusion).

Your doctor will decide how much to give you, depending on your weight. The correct dose also depends on the type of infection and any other illness you may have.

Blood samples will be taken by your doctor or nurse to check the dose is right for you.

Always take this medicine exactly as your doctor or pharmacist has told you. Check with your doctor or pharmacist if you are not sure.

The recommended dose is stated below and apply to both of the medicines shown at the heading of this leaflet.

Adults

• The usual daily dose in adults is 3-5 mg for each kg of body weight

• This is split into doses given every 6-8 hours

• This dose may be increased or decreased by your doctor depending on your illness

• If you have kidney problems your doctor may give you a lower dose

• Elderly people should be closely checked when having this medicine.

Use in children and adolescents

Children (aged 1 year and above)

• The usual daily dose is 3-6 mg for each kg of body weight

• This is given either as 1 single dose or sometimes split into 2 separate doses.

Babies (aged 4 weeks to 1 year)

• The usual daily dose is 4.5 to 7.5 mg for each kg of body weight

• This is given either as 1 single dose or sometimes split into 2 separate doses

New born babies (up to 4 weeks):

• The usual daily dose is 4 to 7 mg for each kg of body weight

• This is given in 1 single dose.

If you take more Gentamicin than you should

It is most unlikely that you will be given too much medicine by the doctor or nurse.

Your doctor or nurse will be checking your progress and checking the medicine that you are given. Ask if you are not sure why you are getting a dose of medicine.

If you forget to take Gentamicin

Gentamicin will be given to you by a doctor or nurse. It is most unlikely that you will not be given the medicine as prescribed. If you think that you may have missed a dose then talk to your nurse or doctor.

Do not take a double dose to make up for a forgotten dose.

If you stop taking Gentamicin

It is important that the course of treatment your doctor has prescribed is finished.

You may start to feel better but it is important to continue your treatment until the doctor advises otherwise. If you stop, your infection may get worse again.

If you have any further questions on the use of this medicine, ask your doctor or pharmacist.

4. Possible side effects

Like all medicines, this medicine can cause side effects, although not everybody gets them.

Tell your doctor or nurse as soon as possible if any of the following side effects happen:

• It becomes difficult keeping your balance, you feel dizzy or your hearing becomes poor. This may happen as Gentamicin can sometimes damage the ear. This is more likely to happen if your kidneys do not work very well.

• If you notice anything unusual when you pass water, such as any sign of blood in your water (urine) or you find you are passing less water than is normal for you.

This may mean you have kidney problems.

• If you have unusual difficulty in moving which has not happened before, feel weak or unusually tired or have any breathing difficulties that have not happened before.

This may mean you have nerve or muscle problems.

• You get swelling of the hands, feet, ankles, face, lips or throat which may cause difficulty in swallowing or breathing. You could also notice an itchy, lumpy rash (hives) or nettle rash (urticaria). This may mean you are having an allergic reaction to Gentamicin.

Severe allergic reaction of the skin and mucous membranes accompanied by blistering and reddening of the skin which might in very severe cases affect inner organs and might be life threatening (Stevens-Johnson syndrome, toxic epidermal necrolysis) **(frequency very rare).**

If you notice any of the above, talk to your doctor or nurse as soon as possible.

Other possible side effects of Gentamicin are:

Uncommon (may affect up to 1 in 100 people): abnormal blood composition

Rare (may affect up to 1 in 1,000 people): low blood levels of potassium, calcium and magnesium, loss of appetite, weight loss, damage of peripheral nerves, impairment or loss of feeling, vomiting, sickness, increased salivation, inflammation in the mouth, increased levels of liver enzymes and blood bilirubin, muscle pain, increased levels of blood urea, increased body temperature

Very rare (may affect up to 1 in 10,000 people): infection with other, Gentamicin-resistant germs, Diarrhoea, with or without blood and/or stomach cramps, drug fever, confusion,

hallucinations, mental depression, organic brain disease, convulsions, dizziness, balance disorder, headache, impairment of vision, vertigo, decreased blood pressure, increased blood pressure, hair loss, pain at injection site, acute kidney failure, high urine levels of phosphate and amino acids (so called Fanconi-like syndrome, associated with high doses given over long time), severe allergic reaction of the skin and mucous membranes accompanied by blistering and reddening of the skin (Erythema multiforme).

Not known (frequency cannot be estimated from the available data): Irreversible hearing loss, deafness.

Reporting of side effects

If you get any side effects, talk to your doctor, pharmacist or nurse. This includes any possible side effects not listed in this leaflet. You can also report side effects directly via the national reporting system below:

HPRA Pharmacovigilance,
Website: www.hpra.ie.

By reporting side effects you can help provide more information on the safety of this medicine.

5. How to store Gentamicin

• You will not be asked to store your medicine. It will be brought to you ready to be given straight away.

• Keep this medicine out of sight and reach of children.

• Do not use this medicine after the expiry date which is stated on the carton and on the ampoule after “Exp.”. The expiry date refers to the last day of that month.

• Use immediately after opening.

• Do not store this medicine above 25°C. Do not keep this medicine in a fridge or freezer. Store in the original package in order to protect from light.

• After dilution with 0.9% sodium chloride or 5% glucose solution, Gentamicin is stable for 24 h at 25°C.

Chemical and physical in-use stability has been demonstrated for 24 hours at 25°C.

From a microbiological point of view, unless the method of opening/dilution precludes the risk of microbial contamination, the product should be used immediately. If not used immediately, in-use storage times and conditions prior to use are the responsibility of the user.

• Do not use this medicine if you notice any signs of deterioration.

• Do not throw away any medicines via household waste. Ask your pharmacist how to throw away medicines you no longer use. These measures will help protect the environment.

6. Contents of the pack and other information

What Gentamicin Solution for Injection or Infusion contains

- The active substance is Gentamicin as Gentamicin sulfate
- The other ingredients are sulfuric acid or sodium hydroxide (for pH adjustment), sodium metabisulfite (E223) and water for injections.

Each 2 ml ampoule of Gentamicin 10 mg/ml Solution for Injection or Infusion contains the equivalent of 20 mg of Gentamicin.

Each 2 ml ampoule of Gentamicin 40 mg/ml Solution for Injection or Infusion contains the equivalent of 80 mg of Gentamicin.

What Gentamicin Solution for Injection or Infusion looks like and content of the pack

The medicine is a clear, colourless solution for injection or infusion in 2 ml ampoules.

Gentamicin 10 mg/ml is available in packs containing 5 ampoules.

Gentamicin 40 mg/ml is available in packs containing 5 or 10 ampoules.

Not all pack sizes may be marketed.

Marketing Authorisation Holder and Manufacturer

The Marketing Authorisation Holder is:

Pinewood Laboratories Ltd., Ballymacarbry, Clonmel, Co. Tipperary, Ireland.

The Manufacturer is: Biologici Italia Laboratories S.r.l., Via F. Serpero 2, I-20060 Masate (Milano), Italy.

This leaflet was last revised in 01/2024

The following information is intended for medical or healthcare professionals only:

Monitoring

To avoid adverse events, continuous monitoring (before, during and after treatment) of renal function (serum creatinin, creatinin clearance), control of function of vestibule and cochlea as well as hepatic and laboratory parameters is recommended.

In order to reduce the risk of nephrotoxicity and ototoxicity, the following instructions should be considered:

- Regular assessment of auditory, vestibular and renal function is particularly necessary in patients with additional risk factors. Impaired hepatic function or auditory function, bacteraemia and fever have been reported to increase the risk of ototoxicity. Volume depletion or hypotension and liver disease have been reported as additional risk factors for nephrotoxicity.
- Monitoring of renal function before, during and after treatment.
- Dosage strictly according to creatinine clearance (or serum creatinine concentration). In patients with impaired renal function, the dosage must be adjusted according to renal performance (see section 4.2).
- In patients with impaired renal function additionally receiving Gentamicin locally (inhalation, intratracheal, instillation), the amount of Gentamicin absorbed after local administration must also be taken into account for dose adjustment of systemic treatment.
- Monitoring of serum Gentamicin concentrations during therapy in order to avoid that peak levels exceed 10 µg/ml (toxic threshold for the cochleo-vestibular system) with conventional multiple daily dosing or trough levels exceed 2 µg/ml (see section 4.2) when administrating Gentamicin twice daily and 1 mg/L for a once daily dosing.
- In patients with pre-existing inner ear damage (hearing impairment or balance function impairment), or where treatment is long-term, additional monitoring of the balance function and hearing is required.
- Prolonged treatment should be avoided. If possible, the duration of therapy should be limited to 7 – 10 days (see section 4.2).
- Avoid therapy with aminoglycosides immediately subsequent to previous aminoglycoside treatment; if possible, there should be an interval of 7 – 14 days between treatments.
- If possible, avoid concurrent administration of other potentially ototoxic and nephrotoxic substances. If this is unavoidable, particular careful monitoring of renal function is indicated (see section 4.5).
- Ensure adequate hydration and urine production.

Instructions for administration and dilution

After first opening: from the microbiological point of view, the product should be used immediately.

Gentamicin can be diluted with 0.9% sodium chloride or 5% glucose solution. After dilution Gentamicin is stable for 24 h at 25°C.

Chemical and physical in-use stability has been demonstrated for 24 hours at 25°C.

From a microbiological point of view, unless the method of opening/dilution precludes the risk of microbial contamination, the product should be used immediately. If not used immediately, in-use storage times and conditions prior to use are the responsibility of the user.