Product registration dossier
Fortified Procaine Penicillin for Injection 4mega

Submitted by

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Module 1 :

ADMINISTRATIVE INFORMATION AND PRESCRIBING INFORMATION

1.3 Product Information

1.3.1 Summary of Product Characteristics (SmPC)

1. Name of the medicinal product

Fortified procaine penicillin for injection 4mega

2. Qualitative and quantitative composition

Each vial contains: Benzylpenicillin sodium 1,000,000 IU (0.6g) and Procaine benzylpenicillin 3,000,000 IU (3.0g).

3. Pharmaceutical form

Powder for injection

A white or almost white powder

4. Clinical particulars

4.1 Therapeutic indications

Treatment of moderately severe infections due to penicillin sensitive organisms. Infections which usually respond to adequate dosage are: Group A streptococcal infections including upper respiratory tract infections, skin and skin structure infections and scarlet fever; pneumo coccal infections of the respiratory tract; susceptible staphylococcal infections, most gonococcal infections, syphilis, fusospirochaetosis(Vincent’s gingivitis and pharyngitis).

4.2 Posology and method of administration

Adults and children over 12 years: 0.6-4M IU once daily.

Children up to 12 years: 30,000-100,000 IU/kg daily in 1 or 2 doses.

Syphilis: 1.2M IU once daily for three weeks.

To increase blood levels of benzylpenicillin, 1g probenecid by mouth can be given simultaneously.

Method of Administration

The product is intended for Intramuscular Injection ONLY. Do not inject into or near an artery or nerve, or intravenously or admix with other intravenous solutions.

Administer by DEEP INTRAMUSCULAR INJECTION in the upper, outer quadrant of the

buttock. In neonates, infants and small children, the midlateral aspect of the thigh may be preferable. When doses are repeated, vary the injection site.

Because of the high concentration of suspended material in this product, the needle may be blocked if the injection is not made at a slow, steady rate.

4.3 Contraindications

A previous hypersensitivity reaction to any benzylpenicillin or procaine is a contraindication.

4.4 Special warnings and precautions for use

Before administration skin tests of procaine and penicillin should be made, it should not be administered to patients hypersensitive to penicillin and procaine.

The suspension, prepared by adding a suitable amount of water for injection into the vial, should be stored below 10℃ and used up within 24 hours.

4.5 Interaction with other medicinal products and other forms of interaction

Probenecid increases serum concentration of benzylpenicillin; antibacterial activity with aminoglycosides is synergistic; tetracyclines, chloramphenicol, and erythromycin may antagonize the activity of benzylpenicillin.

Tetracycline, a bacteriostatic antibiotic, may antagonize the bactericidal effect of penicillin and concurrent use of these drugs should be avoided.

Concurrent administration of penicillin and probenecid increases and prolongs serum penicillin levels by decreasing the apparent volume of distribution and slowing the rate of excretion by competitively inhibiting renal tubular secretion of penicillin.

4.6 Pregnancy and lactation

Pregnancy Category B

Reproduction studies performed in the mouse, rat, and rabbit have revealed no evidence of impaired fertility or harm to the fetus due to penicillin G. Human experience with the penicillins during pregnancy has not shown any positive evidence of adverse effects on the fetus. There are, however, no adequate and well-controlled studies in pregnant women showing conclusively that harmful effects of these drugs on the fetus can be excluded. Because animal reproduction studies are not always predictive of human response, this drug should be used during pregnancy only if clearly needed.

Nursing Mothers

Soluble penicillin G is excreted in breast milk. Caution should be exercised when penicillin G benzathine and penicillin G procaine are administered to a nursing woman.

4.7 Undesirable effects

Hypersensitivity includes skin reaction, edema in the throat, seldom anaphylactic shock. Allergy to procaine also exists. Embolic toxic reactions due to accidental intravascular administration.

Cardiovascular: Myocardial depression, vasodilation, conduction disturbances Central nervous system: Seizures, confusion, lethargy, dizziness, disorientation, agitation, hallucinations

Hematologic: Hemolytic anemia

Local: Sterile abscess and pain at injection site

Neuromuscular and skeletal: Myoclonus

Renal: Interstitial nephritis

Miscellaneous: Pseudoanaphylactic reactions, Jarisch-Herxheimer reaction, hypersensitivity reactions.

4.8 Overdose

Penicillin in overdosage has the potential to cause neuromuscular hyperirritability or convulsive seizures. In case of overdosage, discontinue medication, treat symptomatically, and institute supportive measures as required.

Benzylpenicilliin sodium is hemodialyzable.

5. Pharmacological properties

5.1 Pharmacodynamic properties

Mode of action

Benzylpenicillin is a bactericidal antibiotic producing its effect on penicillin sensitive micro-organisms during the stage of active multiplication through inhibition of biosynthesis of cell wall mucopeptides.

Procaine Benzylpenicillin is effective against benzylpenicillin sensitive organisms

It has the same indications as penicillin. As its peak blood concentration is relatively low, it is only indicated in mild infections caused by penicillin-sensitive bacteria, such as tonsillitis,

scarlet fever, crysipelas, furuncles and carbuncles. It is also effective forsyphilis, Vincent's angina and gonorrhea.

5.2 Pharmacokinetic properties

The procaine salt has low solubility and is administered intramuscularly as a suspension of crystalline procaine penicillin. These particles dissolve slowly after administration, so that absorption from the injection site takes place over a prolonged period. Because absorption continues for up to 24 hours, injection may be given only once or twice daily, or as initial treatment. A peak serum level is reached in about 2 hours.

About 60% of benzylpenicillin is bound to serum proteins. The medicine is distributed throughout the body tissues in widely varying amounts. Highest levels are found in the kidneys with lesser amounts in the liver, skin and intestines. Benzylpenicillin penetrates into all other tissues and into the cerebro-spinal fluid to a lesser degree.

5.3 Preclinical safety data

There is no preclinical safety data of relevance to the prescriber that are additional to those included in other sections.

6. Pharmaceutical particulars

6.1 List of excipients

None.

6.2 Incompatibilities

Incompatible with acids, oxidizing agents (especially in the presence of trace metals), heavy metal ions such as copper, lead, zinc and mercury; glycerol, sympathomimetic amines, thiomersal, wood alcohols, cetostearyl alcohol, hard paraffins, macrogols, cocoa butter and many ionic an nonionic surface-active agents. Penicillin G sodium salt is also incompatible with alkalis, compounds leached from vulcanized rubber, hydrochlorides of tetracyclines and organic peroxides. Other incompatibilities include reducing agents, alcohols, other hydroxy compounds, self-emulsifying stearyl alcohol, emulsifying wax, lanolin, crude cholinesterated bases, glycol, sugars, amines, aminacrine hydrochloride, ephedrine, procaine, rubber tubing, thiamine hydrochloride, zinc oxide, oxidized cellulose, iodine, iodides, thiols, chlorocresol and resorcinol. Penicillin G sodium salt may also be incompatible with naphthalene oils and

vitamin B.

6.3 Shelf life

Three years.

6.4 Special precautions for storage

Kept in well-closed containers and stored in a dry place, stored at a temperature not exceeding 30°C.

6.5 Nature and contents of container

Fortified procaine penicillin is supplied in USP Type II 20ml clear mould glass vials, closed with a Type I rubber stopper uncoated/coated in Omniflex and sealed with an aluminium/plastic cap.

The vials are packed in boxes of 10, 25 or 50 vials. Not all pack sizes are marketed.

7. Marketing authorisation holder

YELLOW PHARMACEUTICAL COMPANY LIMITED.

10, EKWULOBIA STREET WOLIWO LAYOUT, ONITSHA ANAMBRA.