Drug name:
ARTESUNATE 60 mg Injection
Name of Pharmaceutical industry:
PT BHINEKA USADA RAYA

Product Information:

1. Name of product
   ARTESUNATE FOR INJECTION

2. Dosage form
   Powder for injection

3. Descriptions
   White crystaline powder

4. Formula specification, and examination method :

IngredientSodium artesunate	quantity per vial60.00 mg
SolventSolution for injection (sodium bicarbonate)	quantity per ampoule1,00 ml

5. Brief of manufacturing process (skema terlampir)
   Artemisine is a novel type of sesquiterpene lactone with a peroxy group. The lactone group can be reduced by sodium borohybride to dihydroartemisin, a hemiacetal. Interaction of dihydroartemisin with succine anhydride (butanedioic anhydride) in the presence of pyridine affords the artesunate.
   Artesunate for injection are available in a dual pack form.

6. Mechanism of action

Artesunate mainly effects on asexual form of plasmodium at the erythrocytic stage. It is a preparation for treating P. falciparum, with high efficiency, and also medicine for critical cases.

Pharmacology and Toxicology

Pharmacology

The product is a derivant of Artemisinin, have malariacidal action to be erythrocytic stage of plasmodium asexual form, can control clinical episode and symptom. The mechanism of action of Artemisinin is not very clear. It has been observed that Artesunate mainly act on membranous structure of plasmodium by optical and electromicroscope tsc, method in the early days. In recent years, further research on molecular level discover that hematochrome content perioxide group with bivalenferum which has catalytic decomposition action on medicine, can produce oxidicing free radical and the free radical combined certain acceptor of plamodium to cause biochemical reaction which results in the death of plasmodium.

Toxicology

Animal toxicology test indicates the product has some embryon toxicity, fetus resorption is the presentation.

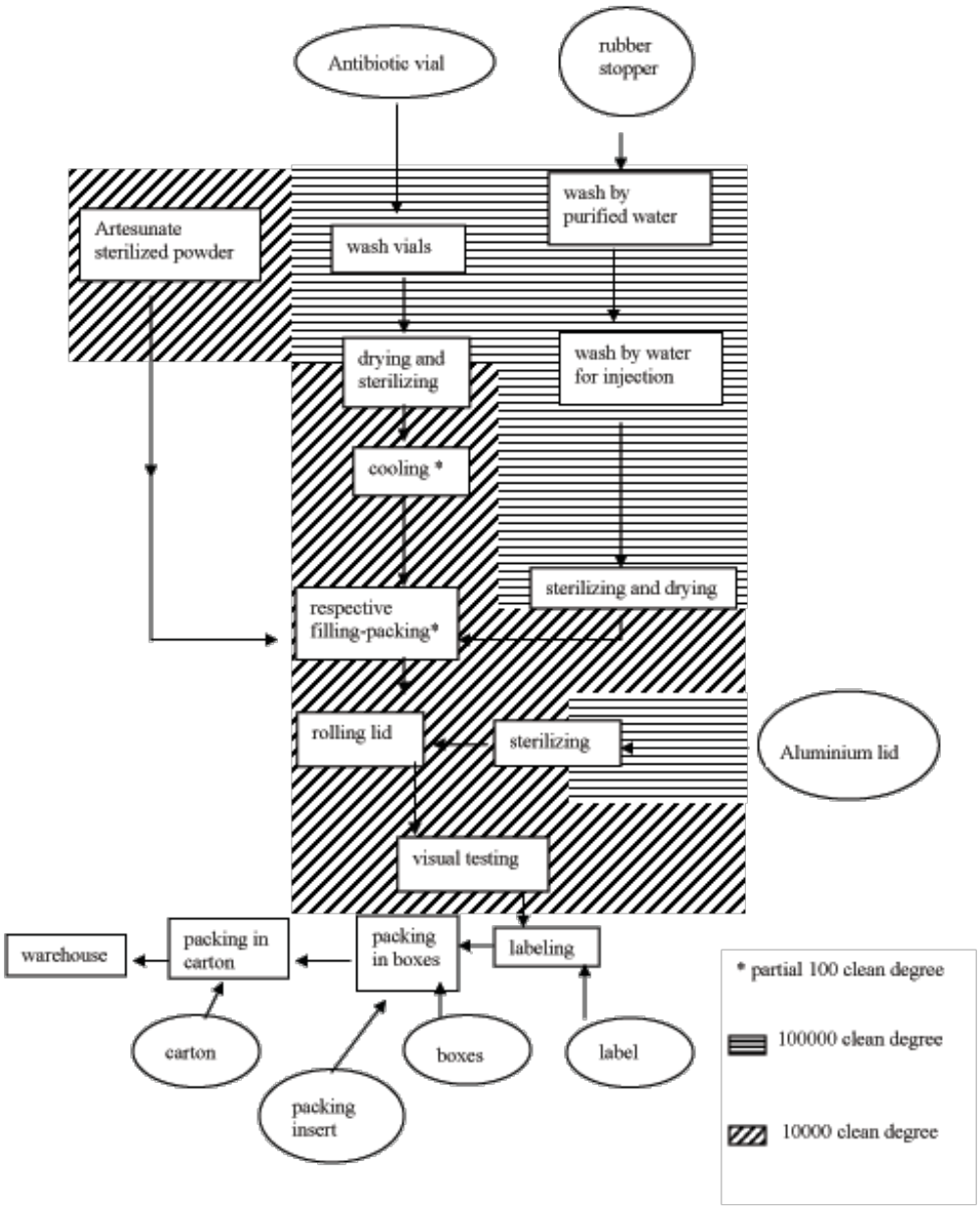
1.6. Production procedure/method

1.6.1. Main process:

raw material → refinig → respective filling packing → stoppling → lidding → checking by light → packing → final packing → storage

Refine Artesunate for sterilized standard of Artesunate, use the screw divided-packing machine to fill into the 7ml pipelike ampoule with the condition of 10000 clean degree and partial 100 clean degree, then through press aluminum lids, light examining, labeling, packing, analysing, ultimately storing when quality reached the acceptable criterion.

1.6.2. Process



Pharmacokinetics

After iv. injecting, the drug serum concentration declines quickly, T1/2 is about 30 min. The distribution of the products is very wide and the levels in intestine, liver and kidney are relatively high. The drug mainly metabolite and transform in vivo, only a little unchanged is excreted from urine and feces.

7. Indications

   For the treatment of severe malaria including the chloroquine-resistant P.falciparum malaria.

8. Posology

   Dosage : 2,4 mg/kg intravenous on the first day followed by 1,2 mg/kg/day for 6 days.
   Before using, inject 1 ml 5% sodium bicarbonate injection solution into the Artesunate vial for injection, shake until it completely dissolve and clarify, add 5ml 5% glucose injection or 5 ml physiological saline to make each 1 ml solution content Artesunate 10 mg, then iv slowly.
   Overdose: Transient reticulocytopenia may occur when overdose (>3,75 mg/kg) is given.

9. Adverse effects

   The following adverse events have been reported in clinical trial.

- Decrease in reticular erythrocyte events.
- Increase in SGPT and BUN level.
- Pain in the injection site, nausea, headache.
- Sinus bradycardia (>50 bpm).
- Diuretic effect (reversible).
- Macroscopic haemoglobuline urea, jaundice, oligouria
- Hypoglycaemic, seizures, bleeding, sepsis, pulmonary edema, reduce plasma lactate level.
- Pulmonary edema.
- Cardiorespiratory arrest, irrectable hypotension, gastrointestinal tract bleeding.
- Black water fever, ulnar or median nerve palsy, Klebsiella sp. urinary tract infection, pneumonia, herpes zooster
- Erythematous urticarial rash

Precautions :

1. Inject in time after dissolving, it must not be used if it occurs opacity, the product should not be used by intravenous drip.
2. Use 5-day course of treatment to deal with falciparum malaria in cloroquine-resistant area, the recurrence rate is below 10%. It is advisable to adopt 7-day course of treatment to deal with patients without immunity or severe symptom.

In pregnancy and lactation : The use in the first trimester is not recommended.

10 Contra indication
Patients with history of drug hypersensitivity

11 Drug interaction: -

12 Storage and expiration date
Stored at 25°-30°C and dry place
Validity 3 years.

13 Label and artwork.
Attached

Batch numbering system

20412	= 2	name of the year
	04	name of month
	12	name of production