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β Arteether Injection - Beta Motil Injection

DESCRIPTION

β arteether is a synthetic derivative of artemisinin, a product of Chinese plant *Artemisia annua*. It is oil soluble ethyl ether derivative of dihydroartemisinin.

β arteether is a fast acting blood schizonticide specifically indicated for the treatment of chloroquine resistant *P. falciparum* malaria and cerebral malaria cases.

COMPOSITION

Each 2ml contains:

| | |
|-------------------|-------|
| β arteether | 150mg |
| Arachis oil | q.s. |

MECHANISM OF ACTION

β arteether is a fast acting blood schizonticidal agent for *P. falciparum* malaria at the erythrocytic stage.

β arteether is concentrated in parasitized erythrocytes. The functional group responsible for antimalarial activity of β arteether is endoperoxide bridge. Iron from the digested haemoglobin of the parasite's victim reduces this bridge, releasing a highly reactive free radical iron species which causes lysis of the parasitic cell.

Lysis of parasitic cell membrane occurs. Damage includes swelling and deformity of food vacuoles membrane, nuclear membrane, endoplasmic reticulum and formation of autophagic vacuoles.

It is also proposed that β arteether inhibits the protein synthesis and alters the ribosomal organization and endoplasmic reticulum.

PHARMACOKINETICS

β arteether is transformed into dihydroartemisinin. It has a half life of 1 to 2 days. It is eliminated by hepatic metabolism. The elimination is much slower compared to other compounds. It is more stable and more lipophilic than other artemisinin compounds.

INDICATIONS

β arteether is indicated for severe malaria including cerebral malaria and as a second line drug in chloroquine resistant malaria cases only.

It is not recommended for the treatment of malaria caused by *P. vivax*, *P. ovale* and *P. malariae* since other effective antimalarial drugs are available for this purpose

CONTRAINDICATIONS

β arteether injection is contraindicated in patients hypersensitive to artemisinin derivatives.

PRECAUTIONS

Pregnancy - Adequate studies regarding safe use of artemisinin derivatives during pregnancy are not available. Artemisinin derivatives should not be used in pregnancy as primary drugs for uncomplicated malaria cases but these can be used for treatment of severe or complicated *P. falciparum* malaria infection in patients of multiple



drug resistance, if the potential benefit justifies the potential risk to the fetus.

Nursing mothers - It is not known whether β arteether is excreted in human milk. Because many drugs are excreted in human milk caution should be exercised while using β arteether.

Drug interactions

Prolonged QT interval has been reported in some studies with high dosage of artemisinin derivatives. The cardiac effects of artemisinins are not very important from a clinical point of view, except that caution should be exercised against combinations with other drugs that prolong the QT interval, such as quinine and halofantrine.

ADVERSE EFFECTS

While neurotoxicity has been reported in experimental animals, there is no evidence of neurotoxicity in human beings with artemisinin derivatives.

β arteether is usually well tolerated. However, nausea, dizziness and depressed GIT activity can occur. Clinical, neurological, electrocardiographic and biochemical monitoring did not reveal significant toxicity.

Apart from some increase in eosinophil numbers, no haematological abnormality was seen.

DOSAGE AND ADMINISTRATION

β arteether is for intramuscular use only.

Adult - 150mg i.e. 1 ampoule of β arteether once daily for 3 consecutive days.

Children - 3mg/Kg per day administered by intramuscular injection over a 3-day period

The injection must be given under aseptic conditions, deep intramuscularly in the upper lateral quadrant of the buttock. No other drug should be mixed in the same syringe.

Storage

Store in cool dark place .

Presentation

Betamotil Injection 3 x 2ml

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