Quinine dihydrochloride Intravenous for Adults

Who can administer

May be administered by registered competent doctor or nurse/midwife

Important information

- Consult with microbiology/infectious diseases recommended
- See under 'Dose' for adjustments required in **renal** impairment
- Given by intravenous infusion for patients who are seriously ill or unable to take tablets - see GUH antimicrobial guidelines (GAPP app)
- Change to oral therapy as soon as possible
- **Emergency supply** available in **ED**
- **Baseline ECG required -** see monitoring
- Unlicensed preparation

Available preparations

Quinine dihydrochloride 600mg per 2ml ampoule

Reconstitution

Already in solution

Draw up using a 5 micron filter needle

Dilute further prior to administration

Infusion fluids

Glucose 5% (preferably) or Sodium chloride 0.9%

Methods of intravenous administration

Intermittent intravenous infusion (administer using an electronically controlled device)

- Add required dose to 250 to 500ml infusion fluid and administer over four hours
- **Fluid restriction** [ref 1]
    - Can be diluted to a maximum concentration of 30mg per 1mL (ie each 300mg in 10ml)
    - Administer via central line only (fluid restriction) - can cause extravasation

Dose in adults

Treatment of severe and complicated malaria

Loading dose

- Give 20mg/kg (up to **maximum 1.4g**) over four hours
- Loading dose should **NOT** be used if the patient has received quinine or mefloquine in previous 12 hours
- See below for alternative loading regimen in ICU

Maintenance dose (to be commenced eight hours after start of loading dose infusion)

- Give 10mg/kg (up to maximum 700mg) administered over four hours, repeated every eight hours
- Reduce maintenance dose to 5 to 7mg/kg if parenteral treatment required for more than 48 hours
- See further information below for adjustment in **renal or hepatic impairment**

Intensive Care setting where rapid treatment required

- As an alternative to the above regimen, the loading dose can be given by infusing a 7mg/kg dose over 30 minutes
- This should be followed immediately by the first of the maintenance doses of 10mg/kg (up to maximum 700mg) over four hours
- After eight hours (from the start of the previous infusion), continue with the usual maintenance dose

Renal impairment

- **Note**: The guidance for renal impairment differs between sources (BNF,WHO guidelines, Renal Drug Database)
- If the patient with severe malaria has persisting acute kidney injury, reduce the **maintenance dose** of quinine by one-third to 5 to 7mg/kg every eight hours **or** 10mg/kg (max 700mg) every twelve hours (ref 3, BNF)

Hepatic impairment

- Reduce maintenance dose to 5 to 7mg/kg in severe hepatic impairment

Monitoring

- Monitor **ECG** particularly in elderly patients or in **cardiac disease** (atrial fibrillation, conduction defects, heart block)
- Use with caution in patients with risk factors for QTc prolongation [ref 4]
- Monitor blood **glucose** (every two hours in the acute situation), and **electrolytes** during treatment (parenteral treatment may cause hypoglycaemia)
- Extravasation may cause tissue damage

Storage

Store below 25^{0}C

References

1: Injectable Medicines Adminstration Guide, Medusa downloaded 11/12/2024

2: GUH antimicrobial guidelines 2024

3: WHO Guidelines for the treatment of malaria October 2023

4: BNF accessed online 11/12/2024

Therapeutic classification

Antimalarials