**GENTAMICIN – for use up to 28 days of age**

**INDICATION**

Treatment of gram negative bacterial infection

|  |  |  |  |
| --- | --- | --- | --- |
| DRUG | DOSE | DOSES/DAY | ROUTE |
| Gentamicin | 5mg/kg | Give a single dose initially.  If continuing treatment give subsequent doses at 36 hourly intervals. If baby appears very unwell or blood culture grows Gram negative bacteria, **and** baby is >32 weeks gestation, give gentamicin every 24 hours (except in renal impairment). | Slow IV bolus over 3 to 5 minutes |

This medicine has a low pH and may cause venous irritation and tissue damage in cases of extravasation. If a central venous access device is unavailable, administer via a large peripheral vein Resite cannula at first signs of inflammation.

**SUPPLY**

20mg gentamicin in 2ml vial

**PREPARATION**

Drug is in solution and no further dilution is required. May be diluted with sodium chloride 0.9% or glucose 5% to aid slow administration.

**Therapeutic blood monitoring:**

* If a second dose of gentamicin is required, measure the trough level immediately before the second dose. Do not wait for the result before giving the second dose.
* The result must be checked and considered before giving the third dose.
* Aim for a trough of <2mg/L.
* If more than 3 doses have been given, then aim for a trough level of <1mg/L.
* If trough level not available, do not withhold the next dose unless there is evidence of renal dysfunction.
* Repeat trough levels before every alternate dose (i.e. before dose 4, 6, 8 etc.), unless previous trough levels have been high, or renal function is impaired when levels should be checked more frequently.
* Consider measuring peak levels for babies with e.g. oedema, macrosomia >4.5kg, or an unsatisfactory response to proven Gram negative infection. Measure 1 hour after gentamicin has been given. Peak level should be at least 8mg/L. If the peak level is less than 8mg/L AND there is Gram negative or staphylococcal infection, consider increasing the dose (e.g. if the peak is 6mg/l, suggest increasing the dose by 25% or seek advice from Pharmacy).
* Biochemistry can be contacted on ext 4210
* Microbiology can be contacted on ext 4206 or 4207. If there has been an unsatisfactory clinical response, discuss with microbiology to optimise antibiotic treatment.

Repeat CRP 18-24 hours after starting antibiotics and first sample for CRP. If CRP remains low (< 10) and baby is clinically well, discontinue the Gentamicin. If blood cultures remain negative but CRP has risen above 10, duration of antibiotics will be 5 to 7 days. Exact duration depends on if baby has been unwell and on return of CRP towards normal values.

Please see NHS Highland –Prevention and Management of Neonatal Sepsis guideline for further detail.

|  |  |
| --- | --- |
| Compatible infusions | Amiodarone, anidulafungin, atracurium,  bivalirudin, ciprofloxacin, clarithromycin, cyclophosphamide, daptomycin, diltiazem,  esmolol, fluconazole, foscarnet, granisetron,  insulin, labetalol, levofloxacin, linezolid,  lorazepam, magnesium sulfate, milrinone,  morphine, ondansetron, pancuronium, ranitidine, remifentanil, tacrolimus, tigecycline, vecuronium, zidovudine. |
| Compatible infusion fluids | Sodium chloride 0.45%, sodium chloride 0.9%,  glucose 5%, glucose 10%,  Ringer’s solution for injection. |
| IV line compatible | Caffeine citrate, fentanyl, ,  insulin, labetalol metronidazole,  midazolam, milrinone, morphine, naloxone, noradrenaline, , vancomycin,  vecuronium. |
| IV line incompatible | Aciclovir, amphoteracin, beta-lactam antibiotics  (penicillins and cephalosporins), diazepam,  erythromycin, flecainide, furosemide, heparin,  propofol, and sodium bicarbonate, |