Louth: Antimicrobial Guidelines - Louth Hospitals: Antimicrobial Guidelines: Neonatal - ■Amoxicillin IV and PO

Neonatal - Amoxicillin IV and PO

Amoxicillin is a broad-spectrum penicillin antibiotic which is rapidly bactericidal against certain Gram-positive and Gram-negative organisms [2].

MEDICATION SAFETY ISSUES

- Anaphylaxis and other hypersensitivity reactions have been reported [1].
- Sound alike drugs: Amoxil® may be confused with Augmentin® [3]

USES

Amoxicillin is indicated for the treatment of commonly occurring bacterial infections, in particular it is used to treat listeria and enterococcal infections which are cephalosporin resistant [2].

PRESENTATION

Intravenous: Powder for Solution for injection or infusion: Amoxil® vials 500mg [2]. Generic brands will be supplied when Amoxil® is in short supply.

Oral: Powder for oral suspension Amoxicillin 125mg/5mL [6].

DOSAGE [1]

For susceptible infections including urinary-tract infections, sinusitis; Haemophilus influenzae infections, Listerial meningitis, Group B streptococcal infection, enterococcal endocarditis (in combination with other antibiotics)

Intravenous Infusion

Age	Dose	Frequency	Max Dose
Neonate under 7 days	50mg/kg	Every 12 hours	Dose doubled in meningitis
Neonate 7-28 days	50mg/kg	Every 8 hours	Dose doubled in meningitis
Child 1 to 3 months	50mg/kg	Every 4-6 hours	Max 2g every 4 hours

Oral

Age	Dose	Frequency	Max Dose
Neonate under 7 days	30mg/kg	Every 12 hours	Max per dose 125mg
Neonate 7-28 days	30mg/kg	Every 8 hours	Max per dose 125mg
Child 1 to 3 months	30mg/kg	Every 8 hours	

RECONSTITUTION [1,2,4,5]

Intravenous:

- Reconstitute 500mg vial with 4.6mL Water for Injection (displacement volume = 0.4mL) to give a solution containing amoxicillin 100mg/ml.
- Withdraw the required amount and add to a suitable volume of sodium chloride 0.9% or glucose 5% [1].
- Doses up to 150mg (1.5mL) should be diluted to a total volume of 3mL.
- Doses above 150mg (1.5mL) should be diluted with the same volume of a suitable diluent (e.g. 250mg dose – 2.5mL of amoxicillin solution added to 2.5mL of sodium chloride 0.9% or glucose 5%)
- The solution should be colourless to pale straw in colour (a transient pink colour or slight opalescence may appear during reconstitution) and free from particles.
- If glucose 5% is used to further dilute the reconstituted amoxicillin, the solution should be used within one hour as amoxicillin is less stable in infusions containing carbohydrate [2].

Oral: Follow the reconstitution instructions on the pack.

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ADMINISTRATION

Intravenous:

- Doses over 30mg/kg must be given by intravenous infusion over 30 - 60 minutes [4].
- If prescribed concurrently with an aminoglycoside, the antibiotics should not be mixed because loss of activity of the aminoglycoside can occur under these conditions. They should preferably be administered at a different site. If this is not possible then the line should be flushed thoroughly with a compatible solution between drugs. [2]

Oral: Give using an appropriate oral/enteral syringe.

SAMPLE CALCULATION

1 day old preterm neonate (0.9kg) with susceptible infection. Amoxicillin 50mg/kg every 12 hours. 50mg x 0.9kg = 45mg every 12 hours. Reconstitute 500mg vial with 4.6mL Water for Injection to give 100mg/mL = 45mg in 0.45mL. Dose below 150mg: dilute to 3mL. Add 0.45mL of the amoxicillin solution to 2.55mL of sodium chloride 0.9%. Infuse at a rate of 0.1mL/min over 30 minutes every 12 hours.

7 day old neonate (3.5kg) with Listerial Meningitis

Amoxicillin: 100mg/kg every 8 hours

100mg x 3.5kg = 350mg every 8 hours

Reconstitute 500mg vial with 4.6mL Water for Injection

500mg in 5mL (displacement value) = 350mg in 3.5mL

Dose above 150mg: dilute with the same volume of a suitable diluent

Add 3.5mL of the amoxicillin solution to 3.5mL of 0.9% Sodium Chloride.

The resulting solution is 7mL

Infuse at a rate of 0.2mL/min over 35 minutes every 8 hours.

STORAGE

Intravenous: Store in original package to protect from moisture/light and keep below 25°C. Use solution immediately following reconstitution [2].

Oral: Dry powder: Do not store above 25°C. Once reconstituted, store in fridge and use within 7 days. [6]

MONITORING

- Renal function should be monitored and doses adjusted in patients with renal impairment [2].
- Maintain adequate hydration and urinary output during high dose administration of amoxicillin in order to reduce the risk of amoxicillin crystalluria [2].
- Monitor for rashes and other skin reactions.

ADVERSE EFFECTS

The main adverse effects seen with amoxicillin administration are diarrhoea, nausea, urticaria, maculopapular rashes, fever, joint pains and angioedema [2].

REFERENCES

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Summary of Changes from Previous Versions