CefTAZidime
Newborn use only

2020

<table>
<tr><td>Alert</td><td>High risk medicine. The Antimicrobial Stewardship Team recommends this drug is listed under the following category: Restricted.</td></tr>
<tr><td>Indication</td><td>Treatment of meningitis and sepsis caused by susceptible gram-negative organisms (especially Pseudomonas aeruginosa) and susceptible gram-positive organisms.</td></tr>
<tr><td>Action</td><td>Bactericidal agent which inhibits cell wall synthesis in susceptible bacteria.</td></tr>
<tr><td>Drug type</td><td>Cephalosporin antibiotic.</td></tr>
<tr><td>Trade name</td><td>Ceftazidime Alphapharm, Ceftazidime Aspen, Ceftazidime Juno Ceftazidime Sandoz, Fortum, Hospira Ceftazidime.</td></tr>
<tr><td>Presentation</td><td>1 g and 2 g vial</td></tr>
<tr><td>Dose</td><td>50 mg/kg/dose
<table>
<tr><th>Corrected Gestational Age/Postmenstrual Age</th><th>Postnatal Age</th><th>Interval</th></tr>
<tr><td>< 30^{+0} weeks</td><td>0–28 days</td><td>12 hourly</td></tr>
<tr><td>< 30^{+0} weeks</td><td>29+ days</td><td>8 hourly</td></tr>
<tr><td>30^{+0}–36^{+6} weeks</td><td>0–14 days</td><td>12 hourly</td></tr>
<tr><td>30^{+0}–36^{+6} weeks</td><td>15+ days</td><td>8 hourly</td></tr>
<tr><td>37^{+0}–44^{+6} weeks</td><td>0–7 days</td><td>12 hourly</td></tr>
<tr><td>37^{+0}–44^{+6} weeks</td><td>8+ days</td><td>8 hourly</td></tr>
<tr><td>≥ 45 weeks</td><td>0+ days</td><td>8 hourly</td></tr>
</table></td></tr>
<tr><td>Dose adjustment</td><td>Renal impairment: Consider increasing dosage interval in those with significant renal impairment.</td></tr>
<tr><td>Maximum dose</td><td>150mg/kg/day</td></tr>
<tr><td>Total cumulative dose</td><td></td></tr>
<tr><td>Route</td><td>IV, IM</td></tr>
<tr><td>Preparation</td><td>IV bolus
1 g vial: Add 8.9 mL of water for injection to the 1 g vial to make a 100 mg/mL solution. OR
2 g vial: Add 8.2 mL of water for injection to the 2 g vial to make a 200mg/mL solution. Draw up 10 mL and add a further 10 mL water for injection in a 20 mL syringe to make 100 mg/mL solution.

IV Infusion
Add 8.9 mL water for injection to the 1 g vial to make 100 mg/mL solution OR Add 8.2 mL of water for injection to the 2g vial to make 200 mg/mL
FURTHER DILUTE
From the 1 g vial Draw up 3 mL (300 mg of ceftazidime) and add 12 mL of sodium chloride 0.9% to make a final volume of 15 mL with a final concentration of 20 mg/mL.
From the 2 g vial draw up 1.5mL (300mg of Ceftazidime) and add 13.5mL of sodium chloride 0.9% to make a final volume of 15mL with a final concentration of 20 mg/mL

IM injection
Add 3 mL water for injection to the 1 g powder for reconstitution to make a 260 mg/mL solution.</td></tr>
<tr><td>Administration</td><td>IV injection: give over at least 3 to 5 minutes.
IV infusion: over 15–30 minutes
IM injection: not recommended. If IM administration is necessary, reconstitute with lignocaine 1%.</td></tr>
<tr><td>Monitoring</td><td>Renal function, liver function.</td></tr>
<tr><td>Contraindications</td><td>Hypersensitivity to penicillins or cephalosporins.</td></tr>
<tr><td>Precautions</td><td>Sodium restriction (each gram contains 52 mg [2.3 mmol] of sodium)..</td></tr>
<tr><td>Drug interactions</td><td>Concurrent use of high doses with nephrotoxic drugs may adversely affect renal function.</td></tr>
<tr><td>Adverse reactions</td><td>Rash, Diarrhoea, Elevated hepatic transaminases
Eosinophillia, thrombocytopenia, haemolytic anaemia
Positive Coombs test
Superinfection following prolonged use (esp. Candida)</td></tr>
<tr><td>Compatibility</td><td>Fluids: Sodium chloride 0.9%, glucose 5%, glucose 10%, Hartmann’s.</td></tr>
</table>

	Y-site: Amino acid solutions, aciclovir, anidulafungin, aztreonam, ciprofloxacin, dexmedetomidine, esmolol, ibuprofen lysine, ketamine, labetalol, linezolid, morphine sulfate, sodium valproate, tacrolimus, tigecycline, tobramycin, zidovudine.
Incompatibility	Fluids: Sodium bicarbonate. Y-site: Acetylcysteine, aminoglycosides – amikacin, gentamicin, tobramycin; amiodarone, atracurium, azathioprine, azithromycin, calcium chloride, caspofungin, chloramphenicol, chlorpromazine, dobutamine, erythromycin, fluconazole, ganciclovir, hydralazine, midazolam, pentamidine, phenytoin, promethazine, protamine, sodium ascorbate, sodium nitroprusside, vancomycin, verapamil.
Stability	Reconstitution with water for injection: Solution stable for 12 hours below 25°C and 24 hours at 2 to 8°C. Reconstitution with lignocaine: Stable for 6 hours below 25°C and 24 hours at 2 to 8°C.
Storage	Store vial below 25°C. Protect from light.
Excipients	Sodium carbonate
Special comments	
Evidence	To be updated.
Practice points	
References	1. Hey E. (Ed) [2003]. Neonatal Formulary 4th Edition. BMJ Publishing Group, London. 2. Neofax accessed on www.neofax.micromedex.solutions.com on 29th July 2015. 3. MIMS Online Accessed 7th July 2015. 4. Australian Injectable Drugs Handbook, 6th Edition, Society of Hospital Pharmacists of Australia 2015. 5. Micromedex® 2.0, (electronic version). Truven Health Analytics, Greenwood Village, Colorado, USA. Available at: http://www.micromedexsolutions.com.acs.hcn.com.au. Accessed 7th July 2015. 6. Cotten CM, McDonald S, Stoll B, Goldberg RN, Poole K, Benjamin DK Jr, National Institute for Child Health and Human Development Neonatal Research Network. The association of third-generation cephalosporin use and invasive candidiasis in extremely low birth-weight infants. Pediatrics 2006;118(2):717–22. 7. Calil R, Marba ST, von Nowakonski A, Tresoldi AT. Reduction in colonization and nosocomial infection by multiresistant bacteria in a neonatal unit after institution of educational measures and restriction in the use of cephalosporins. Am J Infect Control 2001;29(3):133–8. 8. Dellagrammaticas HD, Christodoulou C, Megaloyanni E, Papadimitriou M, Kapetanakis J, Kourakis G. Treatment of gram-negative bacterial meningitis in term neonates with third generation cephalosporins plus amikacin. Biol Neonate 2000;77(3):139–46. 9. Harvey D, Holt DE, Bedford H. Bacterial meningitis in the newborn: a prospective study of mortality and morbidity. Semin Perinatol 1999;23(3):218–25.

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