Alert
The Antimicrobial Stewardship Team recommends this drug is listed under the following category: Restricted.

Indication
Treatment of meningitis and sepsis caused by susceptible gram-negative organisms (especially *Pseudomonas aeruginosa*) and susceptible gram-positive organisms.

Action
Bactericidal agent which inhibits cell wall synthesis in susceptible bacteria.

Drug Type
Cephalosporin antibiotic.

Trade Name
Ceftazidime Alphapharm, Ceftazidime Aspen, Ceftazidime Sandoz, Fortum, Hospira Ceftazidime.

Presentation
Ceftazidime 1 g vial
Ceftazidime 2 g vial

Dosage / Interval
50 mg/kg/dose. Dosing interval as per table below

<table>
<thead>
<tr>
<th>Method</th>
<th>Corrected Gestational Age/Postmenstrual Age</th>
<th>Postnatal Age</th>
<th>Interval</th>
</tr>
</thead>
<tbody>
<tr>
<td>IV</td>
<td>&lt; 30\textsuperscript{th} weeks</td>
<td>0–28 days</td>
<td>12 hourly</td>
</tr>
<tr>
<td>IM</td>
<td>&lt; 30\textsuperscript{th} weeks</td>
<td>29+ days</td>
<td>8 hourly</td>
</tr>
<tr>
<td>IV</td>
<td>30\textsuperscript{th}–36\textsuperscript{th} weeks</td>
<td>0–14 days</td>
<td>12 hourly</td>
</tr>
<tr>
<td>IM</td>
<td>30\textsuperscript{th}–36\textsuperscript{th} weeks</td>
<td>15+ days</td>
<td>8 hourly</td>
</tr>
<tr>
<td>IV</td>
<td>37\textsuperscript{th}–44\textsuperscript{th} weeks</td>
<td>0–7 days</td>
<td>12 hourly</td>
</tr>
<tr>
<td>IM</td>
<td>≥ 45 weeks</td>
<td>8+ days</td>
<td>8 hourly</td>
</tr>
</tbody>
</table>

Route

<table>
<thead>
<tr>
<th>IV</th>
<th>IM</th>
</tr>
</thead>
<tbody>
<tr>
<td>Maximum Daily Dose</td>
<td>150mg/kg/day</td>
</tr>
</tbody>
</table>

Preparation/Dilution

<table>
<thead>
<tr>
<th>IV injection</th>
<th>Add 8.9 mL of water for injection to the 1 g powder for reconstitution to make a 100 mg/mL solution.</th>
</tr>
</thead>
<tbody>
<tr>
<td>IM injection</td>
<td>Add 3 mL water for injection to the 1 g powder for reconstitution to make a 260 mg/mL solution.</td>
</tr>
</tbody>
</table>

Administration

| IV injection: Give over at least 3 to 5 minutes. |
| IV infusion: Over 15–30 minutes via syringe driver. |
| IM injection: Not recommended. If IM administration is necessary, ceftazidime may be reconstituted with lignocaine 1%. |

NOTE: Vials are carbonated, shake well after reconstitution and wait 1–2 minutes for the solution to clear before withdrawing the appropriate dose. Use a vented needle to reduce spraying and leaking.

Monitoring
Not required.

Contraindications
Hypersensitivity to penicillins or cephalosporins.

Precautions
Sodium restriction (each gram contains 52 mg [2.3 mmol] of sodium).
Renal impairment: Consider increasing dosage interval in those with significant renal impairment.
Hepatic impairment.

Drug Interactions
Concurrent use of high doses with nephrotoxic drugs may adversely affect renal function.

Adverse Reactions
Rash
Diarrhoea
Elevated hepatic transaminases
Eosinophilia, thrombocytopenia, haemolytic anaemia
Positive Coombs test
Superinfection following prolonged use (esp. *Candida*)
Compatibility

Fluids: Sodium chloride 0.9%, glucose 5%, glucose 10%, Hartmann’s.
Y-site: Amino acid solutions, aciclovir, amifostine, anidulafungin, aztreonam, bivalirudin, cimetidine ciprofloxacin, dexmedetomidine, esmolol, filgrastim, foscarinet, granisetron, hydromorphone, ibuprofen lysine ketamine, labelatol, linezolid, morphine sulfate, pethidine, 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, haloperidol lactate, hydralazine, midazolam, mycophenolate mofetil, 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 below 25°C. Protect from light.

Special Comments

Refer to full version.

Evidence summary

Refer to full version.

References