Ceftazidime-Avibactam

Health
South Eastern Sydney
Local Health District

Areas where Protocol/Guideline applicable	Inpatient ward areas including intensive care
Authorised Prescribers:	Infectious Diseases specialist
Indication for use	Antibacterial for the treatment of **proven or suspected infections due to susceptible gram negative bacilli** including but not limited to *E.coli*, *Klebsiella sp*, *Pseudomonas sp and Acinetobacter sp* that are resistant to all of cefepime, ceftazidime, imipenem, meropenem, piperacillin-tazobactam and ciprofloxacin. It is effective against organisms with the following resistance enzymes: ESBL, AmpC cephalosporinases, KPCs (Klebsiella pneumoniae carbapenemases), select oxacillinase carbapenemases and NDM (New Delhi Metallobetalactamases) when used in combination with aztreonam. Some gram-negative organisms are intrinsically resistant to ceftazidime-avibactam i.e. bacteria that produce metallo-carbapenemases, bacteria that overproduce efflux pumps, bacteria with porin mutations that inhibit transfer across the cell wall Note: Ceftazidime-avibactam IV is a highly restricted drug that requires specific approval from the Infectious Diseases or Microbiology service
Clinical condition Patient selection: Inclusion criteria	Diagnosis of infection from susceptible gram negative organism with no susceptibility to all of cefepime, ceftazidime, imipenem, meropenem, piperacillin-tazobactam and ciprofloxacin.
Contra-indications	Known hypersensitivity to ceftazidime Ceftazidime, aztreonam and cefiderocol have identical R1 sidechains. Examples of cross reactivity have occurred.
Precautions	Known hypersensitivity to penicillins Dose adjustment is required in renal impairment Sodium restriction – each vial contains 6.4mmol of sodium
Proposed Place in Therapy	For the treatment of carbapenem resistant enterobacterales (CRE) or difficult to treat pseudomonas infections resistant to other antimicrobials.
Dosage	Ceftazidime 2g/ avibactam 0.5 g IV 8-hourly, infused over 3 hours Renal dose adjustment required in patients with creatinine clearance less than 50mL/min

Duration of therapy	Duration should be based on the source of infection and patient's clinical response, and guided by Infectious Diseases consultation.
Important Drug Interactions	Not recommended to be used with probenecid. (decreases elimination of avibactam)
Administration Instructions	Reconstitute vial with 10mL water for injection. Dilute the dose in 100mL of a compatible fluid and infuse over 2 hours. A volume of 50mL can be used if necessary.
Monitoring requirements	At a minimum weekly electrolytes and urea, full blood count, liver function tests (LFTs) whilst on antimicrobial therapy. Daily blood cultures until negative if bacteraemic. Regular monitoring of non-invasive blood pressure, pulse, temperature measurements. Monitor infusion site, may cause phlebitis.
Management of Complications	Consideration of discontinuation of therapy and management of the specific complication, if severe.
Basis of Protocol/Guideline: (including sources of evidence, references)	The Sanford Guide to Antimicrobial Therapy 2020. 50th ed. IDSA Antimicrobial Resistant Treatment Guidance: Gram-negative bacterial infections. 2020.
Groups consulted in development of this guideline	ID pharmacist, ID Department, Microbiology Department, Antimicrobial Stewardship Committee for Prince of Wales Hospital and St George Hospital, Clinical Applications Advisory Committee

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GOVERNANCE	
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