CEFTAZIDIME-AVIBACTAM

Ceftazidime-avibactam is the combination of a 3rd generation cephalosporin with activity against *Pseudomonas aeruginosa* and a non-beta-lactam beta-lactamase inhibitor.

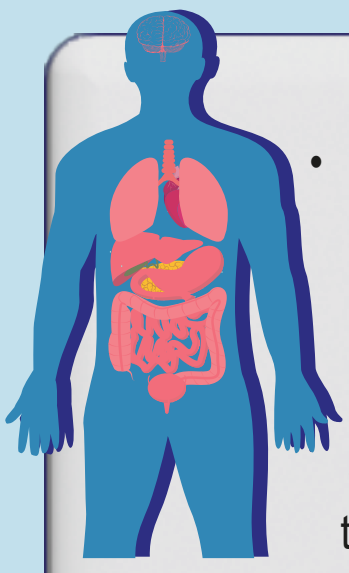
ANTIMICROBIAL SPECTRUM

- Most ***Enterobacterales*** and ***Pseudomonas aeruginosa*** that are otherwise resistant to other antibiotics.
- Avibactam **protects** ceftazidime against degradation by the following enzymes with a resulting expanded spectrum of antibacterial activity: TEM, SHV, ESBLs (CTX-M), AmpC cephalosporinases and some carbapenemases (most KPC, OXA-48) but has **no activity** against metallo-β-lactamases (class B: VIM and NDM). These last extended-drug-resistant bacteria strains are usually susceptible to aztreonam.
- **Selection of resistant mutants** in *Klebsiella pneumoniae* and *Enterobacter cloacae* strains producing KPC-3 or KPC-2 after exposure to ceftazidime-avibactam has been described. One recent revision found that 33% of resistant isolates appeared in patients without previous CAZ / AVI exposure.
  Resistance may occur even in combination treatments, but might be more frequent with monotherapy.

ROUTE
IV

EXCRETION

Ceftazidime: urinary, 80-90% as unchanged drug
Avibactam: urinary, 97%



MAIN INDICATIONS

- CAZ / AVI is indicated for the treatment of **MDR infections** (see above). It might also be included in an empirical treatment in settings where resistance to other treatment options for carbapenemase-producing bacteria (e.g, colistin, fosfomycin, tigecycline, meropenem) is known.
- The need for combination therapy in areas of increased resistance to CAZ / AVI **has not yet been established**, but should possibly be considered under certain circumstances.

ADULT DOSE

- Dose (2.5 g) formulated as ceftazidime 2 g / avibactam 0.5 g intravenous. Infuse each dose over 3 h.
- Recommended dosage in patients with CrCl > 50 mL/min: 2.5 g IV over 3 h q8h.

SIDE EFFECTS

- ! **Less than 8%:** Diarrhoea, nausea, vomiting and hypersensitivity reactions.
- ! *Clostridoides difficile*-associated diarrhoea.
- ! **5%:** Eosinophilia, thrombocytopenia, increased prothrombin time, increased Gamma-glutamyltransferase (GGT), hypokalemia, acute kidney injury, rash.
- ! **Less than 2%:** Central nervous system (e.g., seizures, coma, myoclonus), particularly in patients with renal failure.

CAUTIONS

Use caution if given to patients with penicillin or other B-lactam allergy as cross sensitivity has been established.

PREGNANCY
FDA Category
B

MONITORING

- Monitor for signs of **anaphylaxis** during the first dose.
- Monitor **renal function** at baseline in all patients, and daily in patients with changing renal function.

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References can be found at www.APUA.org
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www.APUA.org
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