

## Therapeutic indications for Ceftazidime –Avibactam

The Hellenic Society of (Antimicrobial) Chemotherapy (HSC)

Consensus as of May 2018

In order to safeguard the appropriate use and effectiveness of this novel antibiotic versus Carbapenemase (KPC & OXA-48) Producing Enterobacteriaceae (CRE), HSC recommends the following:

1. Essential Precondition for Administration:  
Consultation from an Infectious Diseases specialist, preferably a senior one, is essential.
2. Therapeutic Aims:
  - Pan Drug Resistant (PDR) Gram negative bacteria producing KPC or OXA-48 with proven in vitro sensitivity to Ceftazidime/Avibactam.
  - Infections from Extremely Drug Resistant (XDR) bacteria producing KPC or OXA-48 with proven in vitro sensitivity to Ceftazidime/Avibactam in patients with severe sepsis/septic shock or major comorbidities (ie haematologic malignancy, severe immunosuppression). In such cases combination treatment of Ceftazidime/Avibactam with a second in vitro active antimicrobial agent (ie colistin, tigecycline, fosfomycin, gentamicin) is possible and should be decided by the patient's attending physician in cooperation with an infectious diseases specialist. In less severe infections (ie skin and soft tissue infections, urinary tract infections) caused by such pathogens, monotherapy with in vitro sensitive agents such as aminoglycosides or tigecycline can be used instead of Ceftazidime/Avibactam.
  - Infections from *Pseudomonas aeruginosa* when it is in vitro effective to no other antimicrobial agent other than Ceftazidime/Avibactam.
3. Empirical Therapy:  
It can be administered given that the following preconditions are fulfilled:
  - A) The patient has risk factors for CRE infection such as previous CRE infection, known CRE colonization (KPC or OXA-48 with proven in vitro sensitivity to Ceftazidime/Avibactam), previous treatment with meropenem, Intensive Care Unit (ICU) admission within the past six (6) months, or has been recently an inpatient in close proximity (same hospital room) with a different patient who is colonized by KPC or OXA-48 CRE.

PLUS one of the following two:

B) The patient's Clinical Status: Seriously ill ICU patients, immunocompromised patients

C) Severity of infection: Patients suffering from hospital acquired infections in severe sepsis/septic shock.

**Issues of Great Importance to be kept in mind at all times:**

- i. Ceftazidime/Avibactam is not effective against CRE and *P. aeruginosa* infections producing NDM, VIM, IMP metallo beta lactamases, nor against *Acinetobacter spp*, Gram positive cocci and anaerobes.
- ii. **It is imperative that de-escalation in antimicrobial treatment should be appropriately and promptly performed once the sensitivity test results of the pathogen become available.**