Meropenem belongs to the carbapenem class of antibiotics, acting through the inhibition of bacterial cell-wall synthesis by binding to penicillin-binding proteins. Carbapenems have one of the broadest antibacterial spectra and should not be used to treat infections of a narrower spectrum antibiotic with a lower impact on antibacterial resistance as an option.

ANTIMICROBIAL SPECTRUM

- Gram-positive cocci: Methicillin-susceptible Staphylococcus aureus (penicillinase-producing), enterococci, streptococci, Streptococcus pneumoniae.
- Anaerobes: Bacteroides spp., Clostridium spp. other than Clostridoides difficile, Propionibacterium spp.
- Other: Alcaligenes xylosoxidans, Gardnerella vaginalis, Nocardia spp., Rhodococcus equi.

ANTIMICROBIAL SPECTRUM

ADULT DOSE

- Usual Dose: 1 g q8h for most indications.
- High dose (i.e. CNS or bone Infections): 2 g q8h in extended infusion AND combined with another active drug for carbapenemase-producing Enterobacterales.
- Extended infusion method IV: 1-2 g every 8 hours over 3 hours.

SIDE EFFECTS

- C. difficile with prolonged use
- Constipation (1-7%)
- Diarrhoea (4-5%)
- Nausea or vomiting (1-4%)
- Phlebitis (2%)  

- Seizures with an increased risk in patients with pre-existing seizures, stroke, brain injury and in patients with renal impairment. However, the risk is significantly lower than with imipenem

EXCRETION

Approximately 70% excreted in urine unchanged.

MAIN INDICATIONS

In cases where resistance to other antibiotics is anticipated or confirmed, meropenem may be used for the treatment of the following infections:

- Sepsis, including ESBL-producing Enterobacterales infections
- Lower respiratory tract
- Urinary tract
- Skin and skin structure infections
- Intra-abdominal
- Meningitis
- Febrile neutropenia
- Bone and joint
- Endocarditis

RENA L IMPAIRMENT

- Use normal dose every 12 hours if creatinine clearance 26–50 mL/minute.
- Use half normal dose every 12 hours if creatinine clearance 10–25 mL/minute.
- Use half normal dose every 24 hours if creatinine clearance less than 10 mL/minute.

LEGAL DISCLAIMER

The information (including but not limited to text, graphics, images and other material) contained in this document is for informational purposes only. No material contained herein is intended to be a substitute for professional medical advice, diagnosis, treatment or national/local guidelines. Adherence to the information will not ensure successful treatment in every situation. The ultimate judgment regarding the appropriateness of any specific therapy must be made by the physician in light of all the circumstances presented by the individual patient.

REFERENCES

References can be found at www.APUA.org

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