Waterford: Antimicrobial Guidelines - Antimicrobial Guideline: Sepsis Undetermined Origin/Source Unclear

Sepsis - Undetermined Origin/Source Unclear

General

Assess likely focus of infection –e.g. urinary tract, skin/soft tissue, abdominal, chest, neurological and refer to the organ/organ system-specific sections of these guidelines if source of sepsis is known.

- Refer to NEWS Score of the adult patient observation chart and Sepsis Six.
- Identify the specific anatomic site of infection so that any **source control** interventions can be implemented as soon as possible.
- If indwelling intravascular access devices are a potential source they should be removed after alternative vascular access has been secured.
- Take blood cultures and other specimens for microbiological investigations before giving antimicrobials if doing so results in no substantial delay in starting therapy.
- Check previous microbiology results for history of colonisation or infection with **MDROs** e.g. ESBL, VRE, MRSA, and CPE as such a history will influence empiric antimicrobial choice. Discuss with microbiology if required.
- In patients with immunosuppression, hospital-onset sepsis and potential of travel-related infections, additional antimicrobials may be required. Please refer to relevant sections in these guidelines and/or discuss these patients with microbiology.

Antimicrobials

First Line if no obvious source:

Piperacillin-tazobactam 4.5g TDS/QDS IV (QDS dosing indication: severe infection, neutropenic sepsis or *Pseudomonas aeruginosa* infection)

+

Gentamicin/Amikacin once daily IV (please see Gentamicin / Amikacin dosing schedule)

Use **Amikacin** instead of gentamicin if history of infection or colonisation with gentamicin resistant Gram negative bacteria, severe illness or septic shock

+

Vancomycin in severe infection, septic shock, or history infection/colonisation with MRSA (Please see Vancomycin dosing schedule)

Penicillin allergy

NOT IgE -mediated/anaphylaxis/severe reaction:

Ceftriaxone 2 g once daily IV

+

Metronidazole 500 mg TDS IV

+

Gentamicin/Amikacin once daily IV (please see Gentamicin/Amikacin dosing schedule)

Use **Amikacin** instead of gentamicin if history of infection or colonisation with gentamicin resistant Gram negative bacteria, severe illness or septic shock

+

Vancomycin in severe infection, septic shock, or history infection/colonisation with MRSA (Please see Vancomycin dosing schedule)

IgE-mediated / anaphlyaxis/ severe penicillin allergy:

Ciprofloxacin* 400mg BD IV

+

Metronidazole 500mg TDS IV

+

Gentamicin/Amikacin once daily IV (please see Gentamicin/Amikacin dosing schedule)

Use **Amikacin** instead of gentamicin if history of infection or colonisation with gentamicin resistant Gram negative bacteria, severe illness or septic shock.

+

Vancomycin in severe infection, septic shock, or history infection/colonisation with MRSA (Please see Vancomycin dosing schedule)

If history of colonisation or infection with ESBL - producing, OR gram negative bacteria resistant to piperacillin-tazobactam or cephalosporins use **Meropenem** 1g TDS IV. Note restricted antimicrobial agent, discuss with microbiology.

Review need for Gentamicin/Amikacin daily. The use of aminoglycosides in combination with other agents (e.g. co-amoxiclav) is rarely required for longer than 3 days. Discuss with microbiology if required.

***** Please read the HPRA Drug Safety Alert issued in 2018 and the HPRA Drug Safety Newsletter issued in 2023 highlighting restrictions on use of fluoroquinolones (eg. ciprofloxacin, levofloxacin) due to the risk of disabling, long-lasting and potentially irreversible side effects (including tendon damage, QT prolongation, neuropathies and neuro psychiatric disorder). Use of fluoroquinolones in older patients, those with renal impairment, solid organ transplantation or on systemic corticosteroids increases the risk of tendon damage.

Comments

- Review gentamicin/amikacin prescriptions daily; a single or stat dose may be all that is required. Consider stopping at 48 hours if patient stable and no growth on cultures.
- Aminoglycoside treatment beyond 3 days is rarely required. If continued requirement, please discuss with microbiology.
- Empiric broad-spectrum therapy should be de-escalated or changed to targeted therapy once pathogen identification and susceptibilities are established and/or adequate clinical improvement is noted. Discuss de-escalation with microbiology if required.