Bone and Joint Infections

Osteomyelitis/Septic Arthritis

*Prophylaxis of open fracture - see local orthopaedic protocols and surgical prophylaxis guidelines

*Diabetic foot infections/ Prosthetic Joint Infection - please consult infection specialists (Clinical Microbiologist or Infectious Diseases).

General points

- Send blood cultures, joint aspirate or bone for culture prior to commencing antimicrobial therapy if possible.
- Review microbiology test results for history of infection or colonisation with **MRSA.**
- The below recommendations do not relate to prosthetic joint infections.
- Consider history of trauma or surgery to joint, risk of TB, infective endocarditis, sexual and travel history.

Empiric Antibiotic Therapy

First Line: Flucloxacillin 2g QDS IV

MRSA known or high risk: Add **Vancomycin or Teicoplanin** to the above agents while awaiting culture results. (Please see Vancomycin / Teicoplanin dosing schedule).

Penicillin allergy - NOT IgE mediated reaction/anaphylaxis :

Cefuroxime 1.5g TDS IV

MRSA known or high risk : Add **Vancomycin or Teicoplanin** to the above agents while awaiting culture results.

Penicillin allergy - Severe/ IgE-mediated reaction/anaphylaxis to penicillin:

Vancomycin or **Teicoplanin**

Comments

- Adjust antimicrobial treatment when culture results available.
- Total duration will depend on a number of factors including causative organism, success of source control procedures, and clinical response.
- Monitor WCC, CRP, LFTs and renal function while on treatment **.**
- Discuss cases with infection specialists (Clinical Microbiologist or ID).

Prophylaxis of Open Fracture

ANTIBIOTIC PROPHYLAXIS FOR OPEN FRACTURES

PHASE 1 : Within 1 hour of injury and continue until wound excision

Antibiotic Regimen should be administered as soon as possible after the injury:

- **Cefuroxime** 1.5 g IV TDS plus **Metronidazole** 500 mg IV TDS until time of first debridement.
- **In case of IgE-mediated /severe penicillin allergy/anaphylaxis:** Use **Clindamycin** 600mg-1.2 g QDS plus IV plus **Gentamicin** 3 mg/kg once daily IV. Patients with non-severe penicillin allergy (mild / rash only and no history of severe reaction / anaphylaxis / angioedema), a cephalosporin such as **Cefuroxime** is considered safe and is the agent of choice.
- In the case of open fractures of the distal phalanx of the finger use **Cefuroxime** 1.5g TDS IV only – (in case of *severe* penicillin allergy/anaphylaxis use **Clindamycin** 600mg-1.2g QDS IV).
- If history or high risk of **MRSA** colonisation / infection add **Vancomycin** 15mg/kg (max 2g) to the antibiotic regimens.
- In the case of heavily contaminated wounds, e.g. farmyard injuries or injuries with vascular insufficiency or Gustilo Grade III fractures, add **Gentamicin** 3 mg/kg IV once daily to antibiotic regimen on initial presentation.At the time of first debridement and stabilisation, ensure prophylaxis of **Cefuroxime** 1.5 g IV and **Metronidazole** 500 mg IV is given; in addition give **Gentamicin** 3 mg/kg IV stat pre-operatively (unless Gentamicin has been given in the past 16 hours).
- Antibiotics after wound excision should continue for 24 hours .

PHASE 2:

- At the time of definitive skeletal stabilisation and definitive soft tissue coverage the patient should receive a single intravenous dose at induction of **Vancomycin** 15mg/kg (max 2g) (if it has been more than 12 hour since the last dose) plus **Gentamicin** 3 mg/ kg (if it has been more than 16 hours since the last dose).

Reference: Eccles S, et al. Standards for the management of open fractures. Oxford University Press; 2020.