Necrotising Soft Tissue Infections

General points

- Includes necrotising cellulitis, myositis, and cellulitis.
- Characterised by fulminant tissue destruction, systemic toxicity and high mortality.
- Early recognition of necrotising infection is crucial as surgical management can be life-saving.

When to suspect:

Soft tissue infection + signs of systemic illness + any of the following:

- Crepitus; skin discolouration or necrosis; thin, foul smelling wound discharge
- Rapid progression of clinical manifestations
- Severe pain (often out of proportion to exam findings)

Potentially involved sites:

- Upper and lower limbs
- Surgical or traumatic wounds
- Fournier's gangrene (perineum)
- Head and neck region (odontogenic infections)

Antibiotics (Empiric therapy)

Necrotising soft tissue infections are a surgical emergency.

Urgent surgical review is required in suspected cases.

First Line:

Piperacillin-tazobactam 4.5g QDS IV

+

Clindamycin 1.2g QDS IV

+

Gentamicin once daily IV (Please see Gentamicin dosing schedule).

If known or suspected **MRSA** add **Vancomycin** (Please see Vancomycin dosing schedule).

Penicillin allergy:

NOT IgE mediated reaction/anaphylaxis:

Meropenem 1g TDS IV

+

Clindamycin 1.2g QDS IV

+

Gentamicin once daily IV (Please see Gentamicin dosing schedule).

If known or suspected **MRSA** add **Vancomycin** (Please see Vancomycin dosing schedule).

Severe IgE mediated reaction/anaphylaxis to penicillin:

Vancomycin (Please see Vancomycin dosing schedule).

+

Clindamycin 1.2g QDS IV

+

***Ciprofloxacin** 400mg BD-TDS IV

+

Amikacin once daily IV. (Please see Amikacin dosing schedule)

Antimicrobial therapy can be de-escalated and rationalised post-surgical debridement, once pathogen(s) identified and clinical condition has stabilised.

- *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

- The management of necrotising fasciitis is primarily surgical with debridement of non-viable tissue to halt the spread of infection.
- Antibiotics should be reviewed after surgery and in conjunction with culture results.
- If Group A Streptococcal infection confirmed, consider change to IV Benzylpenicillin plus Clindamycin, following discussion with Microbiologist. Consider IV immunoglobulin (IVIG).
- Modify treatment according to Microbiology results and clinical response.