Initial Management of Neutropenic Sepsis in ADULTS

DEFINITIONS

NEUTROPENIC SEPSIS

Sepsis (as defined previously) AND
Neutropenia (Neutrophil count < 0.5, OR < 1 if recent chemotherapy within 3 weeks)

OTHER PATIENT GROUPS INCLUDED:
Clibically septic with normal neutrophil count, no identified source of sepsis but known to be immunocompromised due to previous transplant (solid organ or bone marrow), high dose steroids (e.g. prednisolone > 15 mg/day for > 2 weeks), taking other immunosuppressive agents (e.g. anti- TNF agents, cyclophosphamide etc) or primary immunodeficiency.

IMMEDIATE CLINICAL MANAGEMENT

Neutropenic sepsis is a life-threatening medical emergency. Patients who exhibit signs of haemodynamic compromise should not remain untreated whilst awaiting confirmation of neutropenia. Patients should be assessed by experienced clinical staff within 15 minutes of presentation. ALL patients should have the following initiated immediately and within one hour of presentation

(Sepsis 6 care bundle):

• Intravenous antibiotics as per risk category (see below)
• Measure serum lactate with Full Blood Count
• Measure urine output & consider catheter

Once clinically stable, the patient’s oncology / haematology / specialist team should be contacted as soon as possible (via on-call medical staff if necessary)

EMPIRICAL ANTIBIOTICS

Is patient a stem cell transplant / solid organ transplant recipient or are they receiving chemotherapy for acute leukaemia

IF YES

Does patient have severe sepsis, septic shock or NEWS ≥5?

IF YES

STANDARD RISK

IV Piperacillin / Tazobactam 4.5 g 6 hourly
If history of penicillin allergy (NOT anaphylaxis)
IV Aztreonam 2g 6 hourly
AND IV Vancomycin***
If history of penicillin allergy (anaphylaxis)
IV Gentamicin**
AND IV Vancomycin***

HIGH RISK

IV Piperacillin / Tazobactam 4.5g 6 hourly
If history of penicillin allergy (NOT anaphylaxis)
IV Aztreonam 2g 6 hourly
AND IV Gentamicin**
If history of penicillin allergy (anaphylaxis)
IV Gentamicin**
AND IV Vancomycin***
AND IV Cefipime 400mg 1 hourly

CRITICAL RISK

First line including penicillin allergy (NOT anaphylaxis)
IV Metoprolol 1g 8 hourly
AND IV Amikacin*
If history of penicillin allergy (anaphylaxis)
AND IV Cefepime 400mg 2 hourly
AND IV Vancomycin***

INVESTIGATIONS

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Virology

• Send 10 ml EDTA plasma sample for CMV/EBV/ Adenovirus PCR testing (For specific patients after discussion with haematologist).
• If respiratory symptoms; send a sputum sample or a throat gargle (20ml water) or a non charcoal flocked nasal swab and throat swab in viral PCR sample solution (VPSS).
• If rash send a plasma and throat swab (in VPSS) and a stool sample in an ordinary universal container.
• If vesicular rash send lesion swab/aspirate in VPSS.
• If diarrhoea send a stool sample in an ordinary universal container or a non-charcoal flocked rectal swab in VPSS.
• All of the above samples must be marked “for virology”.
• If viral infection strongly suspected contact duty Virologist.

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