9.4 VAD

**Indication**

First line treatment of multiple myeloma patients suitable for intensive therapy or resistant to alkylator therapy. For more detail of this regimen and other treatment options in multiple myeloma, please consult UKMF/BCSH Guidelines on the diagnosis and management of multiple myeloma [www.ukmf.org.uk/guidelines](http://www.ukmf.org.uk/guidelines).

- **Pre-treatment evaluation**

  - Document FBC (with film), plasma viscosity, U&E, creatinine, LFTs, calcium, glucose, serum protein electrophoresis and paraprotein quantitation, CRP, \( \beta_2 \)-microglobulin and immunoglobulin levels.
  - Urine for BJP (and formal evaluation of 24 hour urinary BJP excretion if light chain only myeloma).
  - Baseline serum free light chain profile if BJP or non-secretory myeloma.
  - Bone marrow aspirate ± trephine (and cytogenetics if part of local protocol).
  - Skeletal survey.
  - Document height and weight and surface area.
  - Consider ECG ± echocardiogram if clinical suspicion of cardiac dysfunction.
  - Patient will require a (tunnelled) central venous access catheter (or PICC line).
  - Give adequate verbal and written information for patients and relatives concerning patient’s disease, treatment strategy and side effects.
  - Obtain written consent from patient or guardian.
  - Discuss issues relating to contraception and potential risk of infertility with patient and relatives (if applicable).
ASWCS Haematology Chemotherapy Protocols

• **Drug Regimen**

<table>
<thead>
<tr>
<th>Days</th>
<th>Drug</th>
<th>Dose</th>
<th>Route</th>
<th>Comments</th>
</tr>
</thead>
<tbody>
<tr>
<td>1-4</td>
<td>Vincristine</td>
<td>0.4mg/day (ie total 1.6mg)</td>
<td>IV</td>
<td>Continuous IV infusion over 4 days in sodium chloride 0.9% (mixed with Doxorubicin). Minimum volume 50ml</td>
</tr>
<tr>
<td>1-4</td>
<td>Doxorubicin</td>
<td>9mg/m²/day (ie total 36 mg/m²)</td>
<td>IV</td>
<td>Continuous IV infusion over 4 days in 0.9% saline (mixed with Vincristine)</td>
</tr>
<tr>
<td>1-4</td>
<td>Dexamethasone</td>
<td>40mg daily</td>
<td>PO</td>
<td>Take in the mornings; swallow whole with food</td>
</tr>
</tbody>
</table>

**NB:** Dexamethasone may be given in addition on days 8-11 and days 15-18 for the first course only (dose as above).

• **Cycle Frequency**
  - Repeat every 21-28 days.
  - Continue to maximal response, usually 4-6 cycles.

• **Dose Modifications**

  **Vincristine:** If patient complains of significant constipation or sensory loss in fingers and/or toes, discuss possible dose reduction with consultant before administration.

  **Doxorubicin:** Reduce dose by 50% if bilirubin is between 20-50µmol/L.
  Discuss if bilirubin is >50µmol/L.
  **Maximum cumulative dose = 450mg/m²**

  **Haematological dose reductions:**
  - The neutrophil count should be ≥ 1.0 x 10⁹/l and platelet count ≥ 50 x 10⁹/l before giving treatment at any stage. If necessary, treatment should be delayed until these levels are achieved unless they are considered to be due to bone marrow infiltration.
  - Consider G-CSF if treatment delays are prolonged or frequent.

• **Investigations prior to subsequent cycles**
  - FBC, U&E, creatinine, LFTs, calcium, paraprotein level or urinary protein/BJP excretion/serum free light chain profile, plasma viscosity
  - Reassess disease response after each cycle of VAD and then 6 weekly during plateau phase.
Concurrent Medication

- Encourage 3l/24 hours oral fluid intake.
- Allopurinol 300mg (or 100mg if creatinine clearance <20mls/min) od po during the first two treatment cycles.
- Nystatin and Chlorhexidine mouthcare.
- Oral systemic PCP prophylaxis is recommended until 2 weeks after the end of treatment - refer to local protocol.
- Consider oral systemic anti-bacterial, anti-viral and/or anti-fungal prophylaxis if patient is neutropenic - refer to local protocol.
- H2-antagonist or PPI is recommended throughout the first cycle if 3 blocks of dexamethasone are given and for at least the first 7 days of each subsequent cycle.
- Bisphosphonates (Sodium Clodronate PO or Pamidronate IV or Zolendronate IV).

Anti-emetics

This regimen has moderate emetic potential - refer to local protocol.

References