MACE

INDICATION
Consolidation chemotherapy for AML in remission or salvage.

TREATMENT INTENT
Curative

PRE-ASSESSMENT
1. Confirm diagnosis
2. Pregnancy Test - *for all women with childbearing potential* before each new chemotherapy course.
3. ECG +/- Echo - *if clinically indicated.*
4. Record performance status (WHO/ECOG).
5. Record height and weight.
6. Consent - ensure patient has received adequate verbal and written information regarding their disease, treatment and potential side effects. Document in medical notes all information that has been given. Obtain written consent on the day of treatment.
7. Central venous access should be used, e.g. Hickman line or PICC. In urgent cases it may be necessary to start chemotherapy via a peripheral cannula.

DRUG REGIMEN

**Days 1 to 5**
AMSACRINE 100 mg/m^2^ daily in 500 mL glucose 5% intravenous infusion over 1 hour (5 doses)

**Days 1 to 5**
CYTARABINE 200 mg/m^2^ daily in 250 mL sodium chloride 0.9% intravenous infusion over 22 hours (5 doses)

**Days 1 to 5**
ETOPOSIDE 100 mg/m^2^ daily in 500-1000 mL sodium chloride 0.9% intravenous infusion over 1 hour (5 doses)

**NB:** Amsacrine is incompatible with sodium chloride 0.9%, the giving set must be flushed with 50 mL glucose 5% before and after infusion.

CYCLE FREQUENCY

MACE should usually be given after induction therapy once counts have recovered to:
Neutrophils > 1 x 10^9^/L
Platelets > 100 x 10^9^/L

MACE is usually given for one cycle only, followed by one cycle of MidAC after counts recover.
DOSE MODIFICATION - discuss with consultant

Amsacrine:

<table>
<thead>
<tr>
<th>Renal impairment</th>
<th>Hepatic impairment</th>
</tr>
</thead>
<tbody>
<tr>
<td>CrCl &lt; 60 mL/min: give 75% dose</td>
<td>Bilirubin &gt; 34 micromol/L: give 60% dose</td>
</tr>
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</table>

Cytarabine:

<table>
<thead>
<tr>
<th>Renal impairment</th>
<th>Hepatic impairment</th>
</tr>
</thead>
<tbody>
<tr>
<td>No dose reduction necessary normally as doses not considered high dose</td>
<td>Bilirubin &gt; 34 micromol/L: give 50% dose. Escalate doses in subsequent cycles in the absence of toxicity</td>
</tr>
</tbody>
</table>

Etoposide: *

<table>
<thead>
<tr>
<th>Renal impairment</th>
<th>Hepatic impairment</th>
</tr>
</thead>
<tbody>
<tr>
<td>CrCl (mL/min)</td>
<td>Dose</td>
</tr>
<tr>
<td>&gt;50</td>
<td>100%</td>
</tr>
<tr>
<td>15-50</td>
<td>75%</td>
</tr>
<tr>
<td>&lt;15</td>
<td>50%</td>
</tr>
</tbody>
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* If hepatic function is impaired but renal function good, it may not be necessary to dose reduce etoposide.

INVESTIGATIONS

- FBC.
- U&E, LFT.

CONCURRENT MEDICATION

<table>
<thead>
<tr>
<th>Drug</th>
<th>Dose and duration</th>
</tr>
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<tbody>
<tr>
<td>Fungal prophylaxis</td>
<td>As per local protocol</td>
</tr>
<tr>
<td>Aciclovir</td>
<td>200 mg three times a day for duration of treatment and for 3 months after completion</td>
</tr>
<tr>
<td>Proton pump inhibitor</td>
<td>As per local formulary</td>
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<tr>
<td></td>
<td>(No allopurinol as this is consolidation.)</td>
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EMETIC RISK

Days 1 to 5: Moderate
ADVERSE EFFECTS / REGIMEN SPECIFIC COMPLICATIONS

Amsacrine  Nausea, mucositis, alopecia. Cardiac toxicity (as for anthracyclines): the risk of arrhythmias is increased by hypokalaemia. Hepatotoxicity is uncommon (elevated serum bilirubin, alkaline phosphatases).

Cytarabine  Nausea, diarrhoea, oral ulceration, hepatic dysfunction. A cytarabine syndrome is also recognised in which patients suffer from fever, myalgia, bone pain, occasional chest pains, maculopapular rash, conjunctivitis and malaise. It usually occurs 6 to 12 hours following administration.

Etoposide  Nausea, mucositis and alopecia. Anaphylactic reactions have been reported rarely and have responded to stopping the infusion and the administration of an antihistamine and hydrocortisone.

High risk for gram negative sepsis, recommend inpatient care until regeneration

EXTRAVASATION RISK

Amsacrine: vesicant
Cytarabine: neutral
Etoposide: irritant

TREATMENT RELATED MORTALITY

2-10% depending on patient factors

REFERENCES


## REVIEW

<table>
<thead>
<tr>
<th>Name</th>
<th>Revision</th>
<th>Date</th>
<th>Version</th>
<th>Review date</th>
</tr>
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<tbody>
<tr>
<td>Prof Vyas</td>
<td>Review pre-assessment, concurrent medications, adding treatment intent and mortality, formatting</td>
<td>Feb 2016</td>
<td>4.0</td>
<td></td>
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