TESTICULAR/GERM CELL CANCER

**BEP (BLEOMYCIN – ETOPOSIDE – CISPLATIN)**

<table>
<thead>
<tr>
<th>Drug</th>
<th>Dose</th>
<th>Route</th>
<th>Days</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cisplatin</td>
<td>20 mg/m²/day</td>
<td>IV*</td>
<td>Days 1 – 5</td>
</tr>
<tr>
<td>Bleomycin</td>
<td>30 units</td>
<td>IV</td>
<td>Days 2, 9 and 16</td>
</tr>
<tr>
<td>Etoposide</td>
<td>100 mg/m²/day</td>
<td>IV**</td>
<td>Days 1 – 5</td>
</tr>
</tbody>
</table>

*Administer over 15 – 60 minutes with adequate pre- and post-hydration; **Administer over 30 – 60 minutes.

Repeat cycle every 21 days for 4 cycles.

NOTE: for patients with Stage II and III seminoma and non-seminoma.

References:  

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<td>30 units</td>
<td>IV</td>
<td>Days 1, 8 and 15</td>
</tr>
<tr>
<td>Etoposide</td>
<td>100 mg/m²/day</td>
<td>IV**</td>
<td>Days 1 – 5</td>
</tr>
</tbody>
</table>

*Administer over 15 – 60 minutes with adequate pre- and post-hydration; **Administer over 30 – 60 minutes.

Administer 1 cycle for patients with Clinical Stage 1 non-seminoma only.

Reference:  

**CARBOPLATIN**

<table>
<thead>
<tr>
<th>Drug</th>
<th>AUC 7*</th>
<th>Route</th>
<th>Day 1</th>
</tr>
</thead>
<tbody>
<tr>
<td>Carboplatin</td>
<td></td>
<td>IV</td>
<td></td>
</tr>
</tbody>
</table>

*AUC of 7 using the Calvert formula. EDTA was the preferred method for calculating the glomerular filtration rate (GFR). A 24–hour urinary collection-based creatinine clearance was allowed, but not one calculated by the Cockcroft formula.

Administer one cycle only.

Reference:  

**CISPLATIN – EPIRUBICIN**

<table>
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<th>Route</th>
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<tbody>
<tr>
<td>Cisplatin</td>
<td>20 mg/m²/day</td>
<td>IV*</td>
<td>Days 1 – 5</td>
</tr>
<tr>
<td>Epirubicin</td>
<td>90 mg/m²</td>
<td>IV**</td>
<td>Day 1</td>
</tr>
</tbody>
</table>

*Administer over 15–30 minutes.

Repeat cycle every 21 days for maximum of 4 cycles.

NOTE: All patients received G-CSF days 7–16 or pegfilgrastim on day 6 or 7.

Reference:  
EP (CISPLATIN – ETOPOSIDE)
Cisplatin 20 mg/m²/day IV* Days 1 – 5
Etoposide 100 mg/m²/day IV Days 1 – 5
*Adequate pre-and post-hydration.
Repeat cycle every 21 days for 2ᵃ or 4ᵇ cycles.


GEMCITABINE – OXALIPLATIN
Gemcitabine 1000 mg/m² IV* Days 1 and 8
*Followed immediately by
Oxaliplatin 130 mg/m² IV** Day 1
**Administer over 30 minutes; **Administer over 2 hours in D₅W.
Repeat cycle every 21 days for at least 2 cycles (patients with responses or SD received 2 more cycles past best response).


PACLITAXEL – GEMCITABINE
Paclitaxel ¹ 100 – 110 mg/m² IV* Days 1, 8 and 15
*Followed by
Gemcitabine 1000 mg/m² IV** Days 1, 8 and 15
Repeat cycle every 28 days for a maximum of 6 cycles.

¹Routine premedication administered; *Administer over 1 hour; **Administer over 30 minutes.

NOTE: Paclitaxel dose of 100 mg/m² was used in post–transplant setting. Colony–stimulating factors were only used for prolonged granulocytopenia.

**TIP (PACLITAXEL – IFOSFAMIDE – CISPLATIN)**

Paclitaxel\(^\#\)  250 mg/m\(^2\)  IV\(^*\)  Day 1
Ifosfamide  1500 mg/m\(^2\)/day  IV\(^**\)  Days 2 – 5
Mesna  500 mg/m\(^2\)/day  IV\(^***\)  Days 2 – 5
Cisplatin  25 mg/m\(^2\)/day  IV\(^#\)  Days 2 – 5

Repeat cycle every 21 days for 4 cycles.

\(^*\)Routine premedication administered; \(^\#\)Administer as a continuous 24 hour infusion; \(^**\)Administer over 1 hour; \(^***\)Administer before ifosfamide and at 4 and 8 hours after each ifosfamide dose; \(^#\)Administer cisplatin over 30 minutes with adequate pre– and post–hydration.

NOTE: All patients received prophylactic filgrastim 5 micrograms/kg SQ days 7 – 18. Dose reductions were not made; Recovery from toxicity was required before re–treatment at full dose occurred.


**VIP (ETOPOSIDE – IFOSFAMIDE – CISPLATIN)**

Etoposide  75 mg/m\(^2\)/day  IV  Days 1 – 5
Ifosfamide\(^*\)  1200 mg/m\(^2\)/day  IV  Days 1 – 5
Cisplatin  20 mg/m\(^2\)/day  IV\(^**\)  Days 1 – 5
Mesna  120 mg/m\(^2\)  IVP\(^***\)  Day 1

Followed by

Mesna  1200 mg/m\(^2\)/day  CIVI  Days 1 – 5

\(^*\)Hydration was also administered as NS at a rate of 100 – 125 mL/hour; \(^**\)Administer over 30 – 60 minutes with adequate pre– and post–hydration; \(^***\)Administer prior to ifosfamide on Day 1 only.

Repeat cycle every 21 days for 4 cycles.

NOTE: 25% dose reduction of etoposide and ifosfamide if prior abdominal or chest radiation.

<table>
<thead>
<tr>
<th>Drug</th>
<th>Dosage</th>
<th>Route</th>
<th>Days</th>
</tr>
</thead>
<tbody>
<tr>
<td>Vinblastine</td>
<td>0.11 mg/kg/day</td>
<td>IV</td>
<td>Days 1 and 2</td>
</tr>
<tr>
<td>Ifosfamide</td>
<td>1200 mg/m²/day</td>
<td>IV</td>
<td>Days 1 – 5</td>
</tr>
<tr>
<td>Cisplatin</td>
<td>20 mg/m²/day</td>
<td>IV</td>
<td>Days 1 – 5</td>
</tr>
<tr>
<td>Mesna</td>
<td>400 mg/m²</td>
<td>IV</td>
<td>Day 1 only***</td>
</tr>
</tbody>
</table>

Followed by

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<tbody>
<tr>
<td>Mesna</td>
<td>1200 mg/m²/day</td>
<td>CIVI</td>
<td>Days 1 – 5</td>
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*Hydration was also administered as NS at a rate of 100 mL/hour during the 5 days; **Administer over 15 – 20 minutes with adequate pre- and post-hydration; ***Administer 15 minutes prior to first dose of ifosfamide.

Repeat cycle every 21 days for 4 cycles.

DOSE MODIFICATION: 25% dose reduction of etoposide and ifosfamide if prior abdominal or chest radiation. Ifosfamide dose was reduced by 25% if the SCr was greater than 2 mg/dL.