

BEP 5 day (metastatic)

INDICATION (ICD10) C62

1. Intermediate or poor prognosis metastatic non-seminomatous germ cell tumour. PS 0, 1, 2

REGIMEN

Day 1 Prehydration

CISPLATIN 20mg/m² in 1000ml sodium chloride 0.9% IV infusion over 60 minutes

ETOPOSIDE 100mg/m² in 1000ml* sodium chloride 0.9% IV infusion over 2 hours

Post hydration

Day 2 Prehydration

CISPLATIN 20mg/m² in 1000ml sodium chloride 0.9% IV infusion over 60 minutes

ETOPOSIDE 100mg/m² in 1000ml* sodium chloride 0.9% IV infusion over 2 hours

Hydrocortisone 100mg IM

BLEOMYCIN 30000units in 3ml lidocaine 1% IM

Post hydration

Day 3 Prehydration

CISPLATIN 20mg/m² in 1000ml sodium chloride 0.9% IV infusion over 60 minutes

ETOPOSIDE 100mg/m² in 1000ml* sodium chloride 0.9% IV infusion over 2 hours

Post hydration

Day 4 Prehydration

CISPLATIN 20mg/m² in 1000ml sodium chloride 0.9% IV infusion over 60 minutes

ETOPOSIDE 100mg/m² in 1000ml* sodium chloride 0.9% IV infusion over 2 hours

Post hydration

Day 5 Prehydration

CISPLATIN 20mg/m² in 1000ml sodium chloride 0.9% IV infusion over 60 minutes

ETOPOSIDE 100mg/m² in 1000ml* sodium chloride 0.9% IV infusion over 2 hours

Post hydration

Day 9 Hydrocortisone 100mg IM

BLEOMYCIN 30000units in 3ml lidocaine 1% IM (consider switching to 100ml sodium chloride 0.9% IV infusion over 30 minutes for patients with platelets <50)

Day 16 Hydrocortisone 100mg IM

BLEOMYCIN 30000units in 3ml lidocaine 1% IM (consider switching to 100ml sodium chloride 0.9% IV infusion over 30 minutes for patients with platelets <50)

*etoposide doses 48mg to 88mg in 250ml, doses 96mg to 180mg in 500ml sodium chloride 0.9%

CYCLE FREQUENCY AND NUMBER OF CYCLES

Every 21 days for 4 cycles only

ANTI-EMETICS

Moderate emetic risk days 1, 2, 3, 4 and 5

Minimal emetic risk days 9 and 16

CONCURRENT MEDICATION REQUIRED

Bleomycin	Ensure hydrocortisone administered before bleomycin IM
Cisplatin	Ensure adequate pre and post hydration. If urine output is <100ml/hour or if patient gains >2kg in weight during IV administration post cisplatin give 20-40mg furosemide PO/IV.
GCSF	Consider GCSF day 6

EXTRAVASATION AND TYPE OF LINE / FILTERS

Bleomycin – neutral
Cisplatin – exfoliant
Etoposide - irritant

Peripheral line

INVESTIGATIONS

Blood results required before SACT administration
FBC, U&E and LFTs every cycle, FBC days 9 and 16
Neutrophils x $10^9/L$ ≥ 1.0
Platelets x $10^9/L$ ≥ 100
Ideally EDTA GFR should be used
Creatinine clearance (GFR) calculated, at the Consultants discretion
Serum creatinine - each cycle
Pulmonary function tests (including transfer factor) before cycle 1
Baseline weight and every cycle

MAIN TOXICITIES AND ADVERSE REACTIONS

Bleomycin	If breathlessness or infiltrates appear not attributable to tumour or co-existence of lung disease bleomycin must be stopped immediately. Consider treatment with corticosteroids and a broad spectrum antibiotic and / referral to chest team. Investigation of choice high resolution CT chest.
Cisplatin	Nephrotoxicity – ensure adequate pre and post hydration is prescribed. Ototoxicity – assess patient for tinnitus or hearing abnormalities.

INTERACTIONS WHICH MAY REQUIRE DOSE MODIFICATIONS

(not exhaustive list check SPC/BNF/Stockleys)

Bleomycin	Cisplatin increases the risk of pulmonary toxicity.
Cisplatin	Aminoglycosides increased risk of nephrotoxicity and ototoxicity. Renal function should be well monitored and audiometric tests as required. Carboplatin can cause a decrease in phenytoin serum levels. This may lead to reappearance of seizures and may require an increase of phenytoin dosages.

DOSE MODIFICATIONS

Haematological

Platelets $< 50 \times 10^9/L$ consider switching IM bleomycin to 100ml sodium chloride 0.9% IV infusion over 30 minutes

Non-haematological

If patient complains of tinnitus, tingling of fingers and/or toes, discuss with SpR or Consultant before administration.

Hepatic impairment

Etoposide

Bilirubin $\geq 50 \mu\text{mol/L}$ or decreased	give 50% dose
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Renal impairment

Bleomycin

CrCl >50ml/min	give 100% dose
CrCl 10-50ml/min	give 75% dose
CrCl <10ml/min	give 50% dose

Cisplatin

CrCl >60ml/min	give 100% dose
CrCl 45-60ml/min	give 75% dose
CrCl <45ml/min	not recommended

Etoposide

CrCl >50ml/min	give 100% dose
CrCl 15-50ml/min	give 75% dose
CrCl <15ml/min	Further dose reduction

REFERENCES