CBOP
(Carboplatin, bleomycin, vincristine, cisplatin)

Indication
High risk testicular cancer

Regimen details

Week 1
Bleomycin 15,000 units IV day 1 in 50ml 0.9% sodium chloride over 15 minutes
Vincristine 2mg IV day 1 in 50ml 0.9% sodium chloride over 5 minutes
Cisplatin 20mg/m^2 IV infusion in 500ml 0.9% sodium chloride over 1 hour days 1-5 with standard hydration

Week 2
Bleomycin 15,000 units over 24 hours IV days 1-5 via syringe pump or ambulatory infusor device
Give concurrently with other chemotherapy
Vincristine 2mg IV day 1 in 50ml 0.9% sodium chloride over 5 minutes
Carboplatin AUC3 IV infusion in 500ml 5% dextrose over 1 hour (immediately after hydration, before cisplatin) day 1
Cisplatin 40mg/m^2 IV infusion in 500ml 0.9% sodium chloride over 1 hour day 1 with standard hydration

Week 3
Bleomycin 15,000 units IV day 1 in 50 ml 0.9% sodium chloride over 15 minutes
Vincristine 2mg IV day 1
Cisplatin 20mg/m^2 IV infusion in 500ml 0.9% sodium chloride over 1 hour days 1-5 with standard hydration

Week 4
Bleomycin 15,000 units over 24 hours IV days 1-5 via syringe pump or ambulatory infusor device
Give concurrently with other chemotherapy
Vincristine 2mg IV day 1 in 50ml 0.9% sodium chloride over 5 minutes
Carboplatin AUC3 IV infusion in 500ml 5% dextrose over 1 hour (immediately after hydration, before cisplatin) day 1
Cisplatin 40mg/m2 IV infusion in 500ml 0.9% sodium chloride over 1 hour day 1 with standard hydration

Weeks 5 and 6
Vincristine 2mg IV day 1 in 50ml 0.9% sodium chloride over 5 minutes
Bleomycin 15,000 units IV day 1 in 50 ml 0.9% sodium chloride over 15 minutes

To be followed by 3 cycles of BEP15

Administration
Ensure adequate IV access, preferably double-lumen central line

Emetogenicity
Highly emetogenic (weeks 1-4)
Minimally emetogenic (weeks 5 & 6)

Additional supportive medication
Filgrastim 5mcg/kg for 7 days starting day 1 of week 5
Potassium chloride 20mmol and magnesium sulphate 10mmol in 1 litre 0.9% sodium chloride to be given before and after cisplatin infusion

Investigations – pre first cycle

Adequate renal function (creatinine clearance > 60 ml.min)
Monitor bleomycin lung toxicity -pre treatment lung function tests
Consider sperm banking for appropriate patients
Audiometry
Examine chest pre treatment each week. Chest X-ray weekly if lung metastases
Ensure adequate IV access, preferably double-lumen central line

Investigations –pre subsequent cycles

Weekly: Full blood count, urea and electrolytes, liver function tests.
Assess patient for signs of sepsis, lung, and skin toxicity

Treatment should be discussed with consultant in the event of any abnormal blood test prior to treatment without exception.

Standard limits for administration to go ahead

See under dose modifications

Dose modifications

Dose modifications and delay may compromise cure

Give at standard dose and on schedule unless platelets fall below 50 x 10^9/l or total white blood count falls below 1.0 x 10^9/l in which case standard chemotherapy should be OMITTED, rather than delayed. The regimen should be resumed if, on the date that chemotherapy is due, the myelosuppression shows clear evidence of starting to recover (platelets> 50, and WBC>1).

For example, if a patient began chemotherapy but at the beginning of week 4 (day 22) his platelets were 40, days 1 and 2 of week 4 would be omitted and the blood tests repeated on day 3. If the platelets had risen to above 50, then chemotherapy would be resumed at day 4 of week 4 (day 24) with bleomycin 15,000iu, and the vincristine/bleomycin cycle would begin on schedule in week 5. If the platelets were still low, day 3 would be omitted and the tests repeated until platelets were > 50 and the regimen could be resumed.

If rapid induction chemotherapy prior to radiotherapy is required, weeks 5 and 6 may be omitted.

If the GFR falls below 50ml.min, cisplatin should be replaced with carboplatin. The EGFR or cockroft Gault equation may be used.

Bleomycin should be omitted if GFR falls below 50ml/min

No adjustment necessary for liver toxicity

<u>Neuropathy and neurotoxicity</u>
Modification of drugs and doses in relationship to neuropathy or ototoxicity are at the discretion of the consultant and should be discussed with the consultant.

<u>Allergic reactions</u>
If a patient develops allergic reactions cisplatin should be given under the protection of anti-histamines and steroids.

<u>Pulmonary toxicity</u>
Following the development of dyspnoea on exertion, fine rales, chest xray abnormalities or significant decrease in pulmonary function through to be due to bleomycin lung toxicity, discontinue bleomycin permanently. A drop in vital capacity to below 80% of the value measured prior to commencement of chemotherapy or reductions of more than 20% of the carbon monoxide diffusion capacity (DLCO0 capacity also require the cessation of bleomycin.

Adverse effects –

for full details consult product literature/ reference texts

Myelosuppression grade 3 common
Emesis grade 3
Alopecia grade 3
Neurotoxicity
Nephrotoxicity
Pneumonitis
Reduced fertility
Ototoxicity
Leukaemogenesis
Diarrhoea/constipation
Reynaud's phenomenon
Skin pigmentation/nail bed tenderness
Avascular necrosis
Late cardiac events

THIS PROTOCOL HAS BEEN DIRECTED BY DR BIRTLE, DESIGNATED LEAD CLINICIAN FOR GERM CELL TUMOURS

RESPONSIBILITY FOR THIS PROTOCOL LIES WITH THE HEAD OF SERVICE

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