# MVAC accelerated

## INDICATION (ICD10) C67

1. Neoadjuvant bladder cancer pre surgery
2. Metastatic bladder cancer

PS 0, 1, 2

## REGIMEN

| | | |
|---|---|---|
| Day 1 | VINBLASTINE | 3mg/m$^2$ (maximum 10mg) in 50ml sodium chloride 0.9% IV infusion over 10 minutes |
| | DOXORUBICIN | 30mg/m$^2$ IV bolus |
| | METHOTREXATE | 30mg/m$^2$ IV bolus |
| | Prehydration | |
| | CISPLATIN | 70mg/m$^2$ in 1000ml sodium chloride 0.9% IV infusion over 2 hours |
| | Posthydration | |

## CYCLE FREQUENCY AND NUMBER OF CYCLES

Neoadjuvant - every 14 days for 3 cycles pre-surgery
Metastatic - every 14 days for up to 6 cycles

## ANTI-EMETICS

Highly emetogenic day 1

## CONCURRENT MEDICATION REQUIRED

| | |
|---|---|
| Cisplatin | Ensure adequate pre and post hydration.If urine output is <100 ml/hour or if patient gains >2kg in weight during IV administration post cisplatin give 20-40 mg furosemide PO/IV. |
| Methotrexate | Calcium folinate (calcium leucovorin (15mg) PO/IV every 6 hours for 6 doses starting 24 hours after methotrexate if:<br>Pleural effusions/ascites<br>Previous mucositis<br>Serum creatinine >120 micromols/L |
| GCSF | GCSF days 2 to 8, starting at least 24 hours after chemotherapy |

## EXTRAVASATION AND TYPE OF LINE / FILTERS

Cisplatin – exfoliant
Doxorubicin - vesicant
Methotrexate – inflammitant
Vinblastine - vesicant

Peripheral or central line

## INVESTIGATIONS

Blood results required before SACT administration
FBC, U&E and LFTs every cycle
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
Baseline weight and every cycle

## MAIN TOXICITES AND ADVERSE REACTIONS

| | |
|---|---|
| Cisplatin | Nephrotoxicity – ensure adequate pre and post hydration is prescribed. Ototoxicity – assess patient for tinnitus or hearing abnormalities. |
| Doxorubicin | Cardiotoxicity – Monitor cardiac function to minimise the risk of anthracycline induced cardiac failure. Doxorubicin may be stopped in future cycles if signs of cardiotoxicity e.g. cardiac arrhythmias, pericardial effusion, tachycardia with fatigue. |
| Methotrexate | Methotrexate induced mucositis - folinic acid (calcium folinate) rescue Caution with pleural effusions or ascites |
| Vinblastine | Neurotoxicity |

## INTERACTIONS WHICH MAY REQUIRE DOSE MODIFICATIONS
**(not exhaustive list check SPC/BNF/Stockleys)**

| | |
|---|---|
| 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. |
| Methotrexate | NSAIDs, antibiotics: may reduce renal excretion |
| Vinblastine | Aprepitant, carbamazepine, clarithromycin, enzalutamide, erythromycin, fluconazole, fosaprepitant, Idelalisib, imatinib, itraconazole, nilotinib, phenytoin, posaconazole, rifampicin may increase exposure to vinblastine, verapamil, voriconazole. Caution |

## DOSE MODIFICATIONS
Doxorubicin maximum cumulative dose
= 450 mg/m$^2$ (in normal cardiac function)
= 400 mg/m$^2$ (in patients with cardiac dysfunction or exposed to mediastinal irradiation)

### Non-haematological
Cisplatin
If patient complains of tinnitus, tingling of fingers and/or toes, discuss with SpR or Consultant before administration.

### Hepatic impairment
Doxorubicin

| | |
|---|---|
| Bilirubin 20-50micromol/L | give 50% dose |
| Bilirubin 51-86micromol/L | give 25% dose |
| Bilirubin >86micromol/L or Child-Pugh C | not recommended |

Methotrexate

| | |
|---|---|
| Bilirubin >85micromol/L | omit |

### Renal impairment
Cisplatin

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

Methotrexate

| | |
|---|---|
| CrCl 20-50ml/min | give 50% dose |
| CrCl <20ml/min | omit dose |

## REFERENCES

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