

**Chemotherapy Protocol**  
**LUNG CANCER – NON-SMALL CELL (NSCLC)**  
**CARBOPLATIN-VINORELBINE-RADIOTHERAPY**  
**(Intravenous)**

Regimen

- NSCLC – Carboplatin-Vinorelbine (intravenous)-Radiotherapy

Indication

- First line therapy of stage I-III B NSCLC
- WHO Performance status 0, 1, 2
- Radical intent

Toxicity

Drug	Adverse Effect
Carboplatin	Neuropathy, thrombocytopenia
Vinorelbine	Neuropathy, stomatitis, transient elevation of LFTs, pain, constipation

The adverse effects listed are not exhaustive. Please refer to the relevant Summary of Product Characteristics for full details.

Monitoring

*Disease*

- A baseline chest x-ray should be performed before starting treatment and up to date (ideally within 1 month) cross section imaging should also be performed

*Regimen*

- EDTA or calculated creatinine clearance before the first cycle
- FBC, LFTs and U&Es prior to each cycle
- A chest x-ray should be performed before each cycle

Dose Modifications

The dose modifications listed are for haematological, liver and renal function only. Dose adjustments may be necessary for other toxicities as well.

In principle all dose reductions due to adverse drug reactions should not be re-escalated in subsequent cycles without consultant approval. It is also a general rule for chemotherapy that if a third dose reduction is necessary treatment should be stopped.

Please discuss all dose reductions / delays with the relevant consultant before prescribing, if appropriate. The approach may be different depending on the clinical circumstances. The following is a general guide only.

### Haematology

Prior to prescribing cycle one the following treatment criteria must be met;

Criteria	Eligible Level
Neutrophil	Greater than or equal to $1.5 \times 10^9/L$ (unless due to bone marrow impairment)
Platelets	Greater than or equal to $100 \times 10^9/L$ (unless due to bone marrow impairment)

The haemoglobin should be kept above 12g/dL during radiotherapy.

In the absence of radiotherapy consider a blood transfusion if patient symptomatic of anaemia or has a haemoglobin of less than 8g/dL

If the neutrophils are less than  $1.5 \times 10^9/L$ , then in the first instance delay treatment for 7 days. If counts recover at this point continue at the initial dose. If counts remain low continue with treatment using a 20% dose reduction. If the myelosuppression recurs despite this dose reduction stop treatment.

If the platelets are less than  $100 \times 10^9/L$  then in the first instance delay treatment for 7 days. If the counts recover at this point continue at the initial dose. If the counts still fall within this range continue using a 20% dose reduction. If the platelet level falls below  $50 \times 10^9/L$  reduce the dose by 50%.

On day eight if the neutrophils are  $1.5 \times 10^9/L$  or above and the platelets are  $100 \times 10^9/L$  or above then continue with treatment. If either count falls below this level contact the relevant consultant for advice.

### Hepatic Impairment

Drug	Recommendation
Carboplatin	No dose reduction necessary
Vinorelbine	For the intravenous preparation consider a dose reduction to $10 \text{mg}/\text{m}^2$ in severe liver impairment

### Renal Impairment

Drug	Dose (% of original dose)
Carboplatin	Significant changes in GFR (of more than 10%) may require dose adjustment  Do not administer if the CrCl is less than 20ml/min
Vinorelbine	No dose adjustment is necessary

### Regimen

The starting dose of carboplatin AUC6 is used with calculated GFR. AUC5 may be considered with EDTA clearance, seek advice from the appropriate consultant before prescribing. The recommended maximum dose when using a calculated creatinine clearance at AUC6 is 900mg. This will be set as 890mg in ARIA to comply with national dose bands. If you have an obese patient or an individual with a calculated creatinine clearance above 125ml/min please seek advice from the relevant consultant.

It should be noted that the dose of carboplatin may need to be altered if there is a change (improvement or reduction) in renal function of more than 10% from the previous cycle.

Please note that during concurrent radiotherapy the vinorelbine dose is 15mg/m<sup>2</sup>. This should be increased to 30mg/m<sup>2</sup> when the radiotherapy is complete.

The maximum dose of intravenous vinorelbine is 60mg.

### 21 day cycle for 4 cycles

Drug	Dose	Days	Administration
Carboplatin	AUC6	1	Intravenous infusion in 500ml glucose 5% over 60 minutes
Vinorelbine	15mg/m <sup>2</sup> (max dose 60mg)	1, 8	Intravenous bolus in 50ml sodium chloride 0.9% over 10 minutes

### Dose Information

- Carboplatin will be dose banded according to the national dose band (10mg/ml)
- The maximum dose will be set at 890mg to comply with national dose bands
- Vinorelbine will be dose banded as per the national dose band (10mg/ml)

## Administration Information

### *Extravasation*

- Carboplatin – irritant
- Vinorelbine – vesicant

### Additional Therapy

- Antiemetics

15-30 minutes prior to chemotherapy on **day one** only;

- ondansetron 8mg oral or intravenous
- dexamethasone 8mg oral or intravenous

As take home medication;

- dexamethasone 4mg twice a day oral for 3 days
- metoclopramide 10mg three times a day when required

15 – 30 minutes prior to chemotherapy on **day eight** only;

- metoclopramide 10mg oral or intravenous

- Gastric protection with a proton pump inhibitor or a H<sub>2</sub> antagonist may be considered in patients considered at high risk of GI ulceration or bleed
- Prophylactic antibiotics can be considered if required

### References

1. National Institute of Clinical Excellence (2005). CG24. The Diagnosis and Treatment of Lung Cancer. Methods, Evidence and Guidance. DOH: London.
2. Schiller JH, Harrington D, Belani CP et al. Comparison of four chemotherapy regimens for advanced non-small cell lung cancer. N Engl J Med 2002; 346 (2): 92-98.
3. Helbekkmo N, Sundstrom SH, Aasebo U et al. Vinorelbine/carboplatin vs gemcitabine/carboplatin in advanced NSCLC, similar efficacy but different impact on toxicity. Br J Cancer 2007; 97 (3): 283-289.

## REGIMEN SUMMARY

### Carboplatin (AUC6)-Vinorelbine IV RT

#### Day One

**1. Dexamethasone 8mg oral or intravenous**

Administration Instructions

Administer 15-30 minutes prior to SACT. Administer dexamethasone 8mg intravenous or equivalent if required

**2. Ondansetron 8mg oral or intravenous**

Administration Instructions

Administer 15-30 minutes prior to SACT. Administer ondansetron 8mg intravenous if required

**3. Vinorelbine 15mg/m<sup>2</sup> intravenous bolus in 50ml sodium chloride 0.9% over 10 minutes**

Administration Instructions

Please note that during concurrent radiotherapy the vinorelbine dose is 15mg/m<sup>2</sup>. This should be increased to 30mg/m<sup>2</sup> when the radiotherapy is complete.

**4. Carboplatin AUC6 intravenous infusion in 500ml glucose 5% over 60 minutes**

#### Take Home Medicines

**5. Dexamethasone 4mg twice a day oral for 3 days starting on day two of the cycle**

Administration Instructions

Take 4mg twice a day for 3 days starting on day 2 of the cycle

**6. Metoclopramide 10mg three times a day when required oral**

Administration Instructions

When required for the relief of nausea. Please supply five days or an original pack as appropriate.

#### Day Eight

**7. Metoclopramide 10mg oral or intravenous**

Administration Instructions

Administer 15-30 minutes before chemotherapy

This may be administered as metoclopramide 10mg intravenous if required

**8. Vinorelbine 15mg/m<sup>2</sup> intravenous bolus in 50ml sodium chloride 0.9% over 10 minutes**

Administration Instructions

Please note that during concurrent radiotherapy the vinorelbine dose is 15mg/m<sup>2</sup>. This should be increased to 30mg/m<sup>2</sup> when the radiotherapy is complete.

## DOCUMENT CONTROL

Version	Date	Amendment	Written By	Approved By
1.1	Feb 2023	National dose banding added to vinorelbine and carboplatin Maximum dose of carboplatin amended as per national dose band Administration instructions added to regimen summary	Alexandra Pritchard Pharmacist	Tom Hurst Pharmacy Technician
1	January 2016	None	Dr Deborah Wright Pharmacist	Dr Andrew Bates Consultant Clinical Oncologist

This chemotherapy protocol has been developed as part of the chemotherapy electronic prescribing project. This was and remains a collaborative project that originated from the former CSCCN. These documents have been approved on behalf of the following Trusts;

Hampshire Hospitals NHS Foundation Trust  
 NHS Isle of Wight  
 Portsmouth Hospitals NHS Trust  
 Salisbury Hospital NHS Foundation Trust  
 University Hospital Southampton NHS Foundation Trust  
 Western Sussex Hospitals NHS Trust

All actions have been taken to ensure these protocols are correct. However, no responsibility can be taken for errors which occur as a result of following these guidelines.