

Chemotherapy Protocol
LUNG CANCER – NON-SMALL CELL (NSCLC)
CISPLATIN - VINOURELBINE
(RADIOTHERAPY)

Regimen

- NSCLC – Cisplatin - Vinorelbine (Radiotherapy)

Indication

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

Toxicity

Drug	Adverse Effect
Cisplatin	Neuropathy, nephrotoxicity, ototoxicity
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
- Consider formal audiology test if relevant

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 on day one of cycle one the following criteria must be met;

Criteria	Eligible Level
Neutrophil	equal to or more than $1.5 \times 10^9/L$
Platelets	equal to or more than $100 \times 10^9/L$

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

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%.

Dose adjustments for day eight should be made according to local practice guidelines or procedures.

Hepatic Impairment

Drug	Bilirubin $\mu\text{mol/L}$		AST/ALT units	Dose (%of original dose)
Cisplatin	No adjustment necessary			
Vinorelbine	For the intravenous preparation consider a dose reduction to 20mg/m^2 in severe liver impairment For the oral preparation consider a dose of $50\text{mg/m}^2/\text{week}$ in moderate liver impairment			

Renal Impairment

Drug	Creatinine Clearance (ml/min)	Dose (% of original dose)
Cisplatin	more than 60	100
	45 - 59	75
	less than 45	Do not use
Vinorelbine	No dose adjustment is necessary	

Regimen

The maximum dose of intravenous vinorelbine is 60mg.

21 day cycle for 4 cycles

Drug	Dose	Days	Administration
Cisplatin	80mg/m ²	1	Intravenous infusion in 1000ml sodium chloride 0.9% with 20mmol potassium chloride at a maximum rate of 1mg cisplatin/min (minimum time 120 minutes)
Vinorelbine	15mg/m ² (max dose 60mg)	1, 8	Intravenous bolus in 50ml sodium chloride 0.9% over 10 minutes

Please note that during concurrent radiotherapy the vinorelbine dose is 15mg/m². This should be increased to 30mg/m² when the radiotherapy is complete.

Dose Information

- Cisplatin will be dose banded as per the CSCCN agreed bands
- Vinorelbine will be dose banded as per the CSCCN agreed bands

Administration Information

Extravasation

- Cisplatin – exfoliant
- Vinorelbine – vesicant

Additional Therapy

- Antiemetics

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

- aprepitant 125mg oral
- dexamethasone 4mg oral or intravenous
- ondansetron 8mg oral or intravenous

As take home medication;

- aprepitant 80mg once a day oral for 2 days
- dexamethasone 4mg once a day oral for 3 days
- metoclopramide 10mg three times a day oral when required
- ondansetron 8mg twice a day oral for 3 days

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

- metoclopramide 10mg oral or intravenous

- Cisplatin pre and post hydration as follows;

Pre

Furosemide 40mg oral or intravenous

1000ml sodium chloride 0.9% with 20mmol potassium chloride and 16mmol magnesium sulphate over 60 minutes

Post

1000ml sodium chloride 0.9% with 20mmol potassium chloride and 16mmol magnesium sulphate over 60 minutes

Patients should be advised to drink at least 3 litres of fluid in the 24 hours after administration of cisplatin.

- Gastric protection with a proton pump inhibitor or a H₂ antagonist may be considered in patients considered at high risk of GI ulceration or bleed
- Prophylactic antibiotics can be considered if required

Additional Information

- There are several protocols that utilise cisplatin and vinorelbine for NSCLC. Some involve radiotherapy, others do not. The dose of vinorelbine must be adjusted where radiotherapy is administered concurrently. Please ensure you have the correct protocol before prescribing.

Coding

- Procurement – X70.3
- Delivery – X72.1 / X72.4

References

1. National Institute of Clinical Excellence (2005). CG24. The Diagnosis and Treatment of Lung Cancer. Methods, Evidence and Guidance. DOH: London.
2. Kubota NY, Nihei K, Fujii T et al. Concurrent chemoradiotherapy with cisplatin and vinorelbine for stage III non-small cell lung cancer. J Thorac Oncol 2008; 3 (6): 617-622.

REGIMEN SUMMARY
Cisplatin-Vinorelbine RT

Day One

1. Aprepitant 125mg oral
2. Dexamethasone 4mg oral or intravenous
3. Ondansetron 8mg oral or intravenous
4. Furosemide 40mg oral or intravenous bolus
5. 1000ml sodium chloride 0.9% with 20mmol potassium chloride and 16mmol magnesium sulphate over 60 minutes
6. Vinorelbine 15mg/m² intravenous bolus in 50ml sodium chloride 0.9% over 10 minutes
7. Cisplatin 80mg/m² intravenous infusion in 1000ml sodium chloride 0.9% with 20mmol potassium chloride at a maximum rate of 1mg cisplatin/minute (minimum time 120 minutes)
8. 1000ml sodium chloride 0.9% with 20mmol potassium chloride and 16mmol magnesium sulphate over 60 minutes

Take Home Medicines

9. Aprepitant 80mg once a day for 2 days starting on day two of the cycle oral
10. Dexamethasone 4mg once a day for 3 days starting on day 2 of the cycle oral
11. Metoclopramide 10mg three times a day when required oral
12. Ondansetron 8mg twice a day for three days starting on the evening of day 1 of the cycle oral

Day Eight

13. Metoclopramide 10mg oral or intravenous
14. Vinorelbine 15mg/m² intravenous bolus in 50ml sodium chloride 0.9% over 10 minutes

DOCUMENT CONTROL

Version	Date	Amendment	Written By	Approved By
1.2	23rd Jan 2014	Header changed to NHS badge In name "and" replaced with dash and brackets changed Adverse effects put in table and toxicity removed < and > written in full Dose modification tabulated Renal and hepatic function tabulated and updated Regimen tabulated Regimen name added to summary Metoclopramide dose changed to 10mg Stat removed Bolus removed from antiemetics Vinorelbine changed to intravenous infusion over 10 minutes Antiemetic TTO timing added Document control tabulated Hospital representation and disclaimer added	Dr Deborah Wright Pharmacist	Donna Kimber Pharmacy Technician
1.1	23rd Sept 2010	Font changed to Arial Header altered to include "Strength through Partnership" Drug names given capitals in regimen Extravasation moved to under Administration Information Footer changed to include regimen name and review date removed Standard paragraph added to introduction in dose modifications Dose modifications format (not information) changed Granisetron removed from antiemetics Aprepitant incorporated as agreed by superusers Coding added Summary page added Document control added	Dr Deborah Wright Pharmacist	Donna Kimber Pharmacy Technician

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 Hospitals 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.