Chemotherapy Protocol

LUNG CANCER – SMALL CELL (SCLC)

CISPLATIN-ETOPOSIDE

(Intravenous / Oral)

Regimen

- SCLC – Cisplatin-Etoposide IV/PO

Indication

- Limited stage SCLC
- Usually given concurrently with radical thoracic radiotherapy
- WHO Performance status 0, 1, 2
- Radical intent

Toxicity

Drug	Adverse Effect
Cisplatin	Neuropathy, nephrotoxicity, ototoxicity
Etoposide	Hypotension on rapid infusion, hyperbilirubinaemia

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 or 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 $1.5x10^9$/L
Platelets	equal to or more than $100x10^9$/L

If radiotherapy is being given as part of the treatment pathway the haemoglobin should be kept above 12g/dL during the radiotherapy.

Thereafter the following modifications are appropriate based on day one blood counts.

Neutrophils ($x10^9$/L)		**Platelets ($x10^9$/L)**	**Dose Modifications**
Less than or equal to 1.5	or	Less than or equal to 100	Delay both cisplatin and etoposide until the counts have recovered to the eligible levels
Febrile neutropenia or treatment delay for a grade 4 neutropenia of more than seven days duration	or	Grade 4 thrombocytopenia requiring medical intervention or grade 2 and above bleeding in association with thrombocytopenia	In the first instance reduce the dose to 80% of the original dose. For a second episode following dose reduction reduce the dose to 50% of the original dose Stop treatment if a third event occurs following a 50% dose modification.

Hepatic Impairment

Drug	Bilirubin		AST	Dose (%of original dose)
Cisplatin	No adjustment necessary			
Etoposide	26-51	or	60-180	50
	more than 51	or	more than 180	clinical decision

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
Etoposide	more than 50	100
	15-50	75
	less than 15	50

Other

Dose reductions or interruptions in therapy are not necessary for those toxicities that are considered unlikely to be serious or life threatening. For example, alopecia, altered taste or nail changes.

For all other non-haematological NCI-CTC grade 3 and above toxicities delay treatment until the adverse effect has resolved to NCI-CTC grade 1 or below. The dose of both agents should then be reduced to 75% of the original dose.

Cisplatin

Peripheral neuropathy is a common complication of cisplatin therapy. Where this occurs at NCI-CTC grade 2 or above delay treatment until resolution to NCI-CTC grade 1 or below and then restart treatment after reducing the cisplatin to 50% of the original dose (the etoposide remains at the previous level). Alternatively substitute the cisplatin with carboplatin AUC 6 for a calculated creatinine clearance or AUC 5 for a ETDA clearance.

Regimen

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/minute (minimum time 120 minutes)
Etoposide	120mg/m^2	1	Intravenous infusion in 1000ml sodium chloride 0.9% over 60 minutes
Etoposide	240mg/m^2	2, 3	Oral

Dose Information

- Cisplatin will be dose banded as per the CSCCN agreed bands
- Etoposide (intravenous) will be dose banded as per the CSCCN agreed bands
- Etoposide (oral) will be dose rounded to the nearest 50mg (up if halfway)

Administration Information

- The etoposide is administered in 1000ml sodium chloride. This will form the post-hydration for cisplatin. No other fluid is required as post-hydration
- Etoposide should be taken an hour before food or on an empty stomach

Extravasation

- Cisplatin – exfoliant
- Etoposide – irritant

Additional Therapy

- Antiemetics

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

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

  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 when required oral
- ondansetron 8mg twice a day oral for 3 days

- Cisplatin pre and post hydration as follows;

  Pre

  Furosemide 40mg oral or intravenous bolus

  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 H_2 antagonist may be considered in patients considered at high risk of GI ulceration or bleed

- Prophylactic antibiotics can be considered if required

- Growth factors as per local policy

Additional Information

- The National Patient Safety Alert on oral chemotherapy (NPSA/2008/RRR001) must be followed in relation to etoposide (oral)

- It must be made clear to all staff, including those in the community, that this is a short course of oral chemotherapy that must not be continued.

- Patients should be assessed for suitability for oral chemotherapy prior to starting treatment.

Coding (OPCS 4.6)

- Procurement – X70.2

- Delivery – X72.1

References

1.National Institute of Clinical Excellence (2005). CG24. The Diagnosis and Treatment of Lung Cancer. Methods, Evidence and Guidance. DOH: London.

REGIMEN SUMMARY

Cisplatin-Etoposide IV/PO

Day One

1. Aprepitant 125mg oral

2. Dexamethasone 4mg oral or intravenous bolus

3. Ondansetron 8mg oral or intravenous bolus

4. Furosemide 40mg oral or intravenous bolus

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

6. Cisplatin 80mg/m^2 intravenous infusion in 1000ml sodium chloride 0.9% with 20mmol potassium chloride at a maximum rate of 1mg cisplatin/minute (minimum time 120 minutes)

7. Etoposide 120mg/m^2 in 1000ml sodium chloride 0.9% over 60 minutes

Take Home Medicines

8. Etoposide 240mg/m^2 once a day oral for two days

9. Aprepitant 80mg once a day oral for two days

10. Dexamethasone 4mg once a day oral for three days

11. Metoclopramide 10mg three times a day when required oral

12. Ondansetron 8mg twice a day oral for three days

DOCUMENT CONTROL

Version	Date	Amendment	Written By	Approved By
1.1	Dec 2013	CSCCN removed from header Toxicities removed Metoclopramide dose changed Hospitals and disclaimer added	Dr Deborah Wright Pharmacist	Donna Kimber Pharmacy Technician
1	June 2011	None	Dr Debbie 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 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.