Chemotherapy Protocol

LUNG CANCER – SMALL CELL (SCLC)

CARBOPLATIN (AUC6)-ETOPOSIDE

(Intravenous / Oral)

Regimen

- SCLC – Carboplatin (AUC6)-Etoposide IV/PO

Indication

- First line treatment of SCLC
- WHO Performance status 0, 1, 2, 3

Toxicity

Drug	Adverse Effect
Carboplatin	Neuropathy, hypersensitivity
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 1st 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 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

Consider blood transfusion if patient symptomatic of anaemia or haemoglobin of less than 8g/dL

Subsequently if the neutrophils are less than $1x10^9$/L then in the first instance delay treatment for seven days. If counts recover at this point continue at the initial dose. If counts remain low continue with treatment using 80% of the last dose. If the myelosuppression recurs despite this dose reduction stop treatment.

If the platelets are 50-$99x10^9$/L then in the first instance delay treatment for seven days. If the counts recover at this point continue at the initial dose. If the counts still fall within this range continue usingof the last dose. If the platelet level falls below $50x10^9$/L reduce the dose by 50%.

Hepatic Impairment

Drug	Bilirubin µmol/L		AST/ALT units	Dose (%of original dose)
Carboplatin	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)
Carboplatin	Less than 20	Do not use
	Changes in the GFR of more than 10% between cycles may require dose adjustment	
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.

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.

Consider a dose reduction in poor performance patients.

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.

21 day cycle for 6 cycles

Drug	Dose	Days	Administration
Carboplatin	AUC6	1	Intravenous infusion in 500ml glucose 5% over 60 minutes
Etoposide	100mg/m^2	1	Intravenous infusion in 1000ml sodium chloride 0.9% over 60 minutes
Etoposide	200mg/m^2	2, 3	Oral

Dose Information

- Carboplatin will be dose banded according to the national dose band (10mg/ml)
- The maximum dose of Carboplatin will be set at 890mg to comply with national dose bands
- Etoposide (intravenous) will be dose banded according to the national dose band (20mg/ml)
- Etoposide (oral) will be dose rounded to the nearest 50mg (up if halfway)

Administration Information

- Etoposide (oral) should be taken an hour before food or on an empty stomach

Extravasation

- Carboplatin – irritant
- Etoposide - irritant

Additional Therapy

- SCLC can be very sensitive to chemotherapy. This may lead to the development of tumour lysis syndrome at the start of therapy. For those at risk individuals' allopurinol should be prescribed. This should begin the day before chemotherapy treatment and continue for as long as a significant chemosensitive tumour bulk remains. Normally one cycle suffices.
- Antiemetics

  15-30 minutes prior to chemotherapy;

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

  As take home medication;

  - dexamethasone 4mg twice a day oral for 3 days
  - metoclopramide 10mg three times a day oral
  - ondansetron 8mg twice a day for 3 days
- 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

Additional Information

- The National Patient Safety Agency Alert NPSA/2008/RRR001 must be adhered to in relation to oral etoposide.

References
1.Pronzato P, Landucci M, Vaira F et al. Carboplatin and etoposide as outpatient treatment of advanced non-small cell lung cancer. Chemotherapy 1994; 40 (2): 144-8.
2.Pfeiffer P, Sorensen P, Rose C et al. Is carboplatin and oral etoposide and effective and feasible regimen in patients with small cell lung cancer? Eur J Cancer 1995; 31A (1): 64-69.

REGIMEN SUMMARY

Carboplatin (AUC6)-Etoposide IV/PO

Day One

1. Dexamethasone 8mg oral or intravenous bolus
   Administration Instructions
   This may be given as 8mg (or equivalent dose) intravenous if required

2. Ondansetron 8mg oral or intravenous bolus
   Administration Instructions
   This may be given as 8mg intravenous if required

3. Carboplatin AUC6 intravenous infusion in 500ml glucose 5% over 60 minutes
   Administration Instructions
   This recommended maximum dose is 900mg based on a creatinine clearance of 125ml/min. This will be set at 890mg in ARIA to comply with national dose bands

4. Etoposide 100mg/m^2 intravenous infusion in 1000ml sodium chloride 0.9% over 60 minutes

Take Home Medicines

5. Etoposide 200mg/m^2 once a day oral for 2 days
   Administration Instructions
   Oral SACT
   Start on day 2 of the cycle

6. Dexamethasone 4mg twice a day oral for 3 days
   Administration Instructions
   Take 4mg twice a day (morning and lunch) for 3 days starting on day two of the cycle

7. Metoclopramide 10mg three times a day when required oral
   Administration Instructions
   Please supply 28 tablets or an original pack as appropriate

8. Ondansetron 8mg twice a day oral for 3 days
   Administration Instructions
   Take 8mg twice a day for three days starting on the evening of day 1 of the cycle

DOCUMENT CONTROL

Version	Date	Amendment	Written By	Approved By
1.4	Feb 2023	National dose banding added to etoposide and carboplatin Maximum dose of carboplatin amended as per national dose bands administration instructions added Coding removed	Alexandra Pritchard Pharmacist	Tom Hurst Pharmacy Technician
1.3	December 2013	CSCCN removed from header Toxicities removed In regimen initial paragraph on carboplatin dose changed to include maximum dose. Metoclopramide dose changed to 10mg TDS OPCS updated Hospitals and disclaimer added	Dr Deborah Wright Pharmacist	Donna Kimber Pharmacy Technician
1.2	August 2012	Title added to regimen summary page with route added Information in toxicity, dose reductions and regimens changed to a table Order of administration changed to give carboplatin first OPCS code X72.4 removed Minor formatting changes	Rebecca Wills Pharmacist	Dr Debbie Wright Pharmacist
1.1	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 Dose information added to reflect super user agreements Granisetron removed from antiemetics Coding added Summary page added Document control added	Dr Debbie Wright Pharmacist	Donna Kimber Pharmacy Technician

1	Jan 2010	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.