Carboplatin & Etoposide

Indication

Small cell lung cancer limited stage in patients unsuitable for cisplatin
Small cell lung cancer extensive stage
Small cell carcinoma of other primary site unsuitable for cisplatin

Regimen details

Day	Drug	Dose	Instructions
1	Carboplatin	AUC 5	500ml Dextrose 5% 1 hour
1-3	Etoposide	100mg/m2	1 litre 0.9% sodium chloride over 1 hour IV**

**** Oral Etoposide can be used on day 2+3 at dose of 200mg/m^2 (rounded to nearest 50mg)**

Carboplatin dose calculated using the Calvert equation: **Carboplatin dose (mg) = AUC (CrCl +25)**
The creatinine clearance (CrCl) is calculated using the Cockcroft and Gault equation

Number of cycles

Given every 21 days for 4-6 cycles

Administration

Oral etoposide is available as 50mg and 100mg capsules. The dose should be rounded to nearest 50mg and swallowed whole on an empty stomach or an hour before food.

Pre-medication

Anti-emetics

Emetogenicity

This regimen has moderate emetogenic potential.

Extravasation

Carboplatin and etoposide are irritant

Investigations – pre first cycle

Investigation	Validity period
FBC	14 days
U+Es (including creatinine)	14 days
LFTs	14 days
Calcium	14 days

Investigations – pre subsequent cycles

Investigation
FBC
U+E (including creatinine)
LFT
Calcium

Standard limits for administration to go ahead

If blood results not within range, authorisation to administer **must** be given by prescriber/ consultant

Investigation	Limit
Neutrophil count	≥ 1.5 x 10^9/L (if 1.0 - 1.5 discuss with consultant)
Platelets	≥ 100 x 10^9/L
Creatinine Clearance (CrCl)	≥ 50mL/min (see dose modifications below)
Bilirubin	< 1.5 x ULN
ALT/AST	< 2.5 x ULN

Dose modifications

- ### Haematological toxicity

If neutrophils <1.0 defer and consider GCSF prophylaxis and/or dose reduction for carboplatin and etoposide by 20%
If neuts 1.0-1.5 – discuss with consultant oncologist
If significant myelosuppression consider reducing oral etoposide dose to 100mg/m2 on days 2 and 3. Consider prophylactic GCSF support.

- ### Renal impairment

CrCl (mL/min)	**Etoposide dose**
>50	100%
15-50	75%
<15	50%

- ### Hepatic impairment

Bilirubin (x ULN)		**AST/ALT** (x ULN)	**Etoposide dose**
<1.5	and	< 1.5	100%
1.5-3.0	or	1.5-3.0	50%
>3.0	or	> 3.0	25% or omit (consultant decision)

- ### Other toxicities

Any Grade 3-4 toxicity (except mucositis and alopecia) – delay until ≤ grade 1 toxicity and reduce doses of carboplatin and etoposide to 75%.

Adverse effects - for full details consult product literature/ reference texts

- **Serious side effects**

Myelosuppression
Neuropathy
Hypersensitivity reactions
Nephrotoxicity

- **Frequently occurring side effects**

Myelosuppression
Alopecia
Nausea and vomiting
Electrolyte disturbances

- **Other side effects**

Decreased appetite
Raised transaminases
Guillain-Barre syndrome

Significant drug interactions – for full details consult product literature/ reference texts

Phenylbutazone, sodium salicylate and salicylic acid: can affect protein binding of etoposide.

Warfarin/coumarin anticoagulants: increased or fluctuating anticoagulant effects. Avoid if possible, consider switching patient to a low molecular weight heparin during treatment or if the patient continues taking an oral anticoagulant monitor the INR at least once a week and adjust dose accordingly.

Carboplatin only:
Aminoglycoside antibiotics: increased risk of nephrotoxicity and ototoxicity
Clozapine: increased risk of agranulocytosis, avoid concomitant use
Diuretics: increased risk of nephrotoxicity and ototoxicity
Nephrotoxic drugs: increased nephrotoxicity; not recommended
Phenytoin: carboplatin reduces absorption and efficacy of phenytoin

Additional comments

References

Etoposide SPC: https://www.medicines.org.uk/emc/product/9070/smpc

Carboplatin SPC: https://www.medicines.org.uk/emc/product/3787

THIS PROTOCOL HAS BEEN DIRECTED BY DR LAU, CLINICIAN FOR LUNG CANCER
RESPONSIBILITY FOR THIS PROTOCOL LIES WITH THE HEAD OF SERVICE

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