Carboplatin paclitaxel weekly concurrent with radiotherapy

Indication

Non-small cell lung cancer

Regimen details

DRUG	FLUID	TIME	ROUTE
Paclitaxel 45mg/m² (maximum 90mg)	100-250mls 0.9% sodium chloride	1 hour	IV
Carboplatin AUC2 (maximum 200mg)	100-500mls 5% Glucose	30-60 minutes	IV

Cycle frequency

Regimen to be given weekly

Number of cycles

For 6 weeks

Administration

Paclitaxel should be administered first. Paclitaxel is administered in a 100-250mL sodium chloride 0.9% non-PVC infusion bag with a 0.22 micron in-line filter over 1 hour.

Carboplatin should be administered in 250mL glucose 5% over 30-60 minutes

Patients should be observed closely for hypersensitivity reactions, particularly during the first and second infusions. Hypersensitivity reactions may occur within a few minutes following the initiation of the infusion of paclitaxel or carboplatin. Facilities for the treatment of hypotension and bronchospasm must be available. If hypersensitivity reactions occur, minor symptoms such as flushing or localised cutaneous reactions do not require discontinuation of therapy. The infusion may be temporarily interrupted and when symptoms improve restarted at a slower infusion rate. Chlorphenamine 10mg IV may be administered. Severe reactions, such as hypotension, bronchospasm or generalised rash/erythema require immediate discontinuation of paclitaxel or carboplatin and appropriate therapy initiated

Pre-medication

Week 1

Pre-medicate 30 mins pre chemo with:

Dexamethasone 10mg	IV in 100ml 0.9% sodium chloride
Chlorphenamine 10mg	I.V. bolus
Ranitidine* 50mg	50mls 0.9% Sodium chloride

For subsequent weeks reduce dexamethasone dose as below. (If patient experiences any hypersensitivity reaction do not reduce the dose further, seek advice from consultant).

Week 2+

Dexamethasone 8mg
Chlorphenamine 10mg IV bolus
Ranitidine* 50mg in 50ml 0.9% sodium chloride

*IV ranitidine may be substituted with an alternative H_2 antagonist

Emetogenicity
Moderate

Additional supportive medication
Ondansetron 8mg bd 1 day
Metoclopramide 10mg tds prn
Co-trimoxazole 960mg OD on alternate days for 10 weeks
PPI (or ranitidine), mouth washes and laxatives as indicated

Extravasation
Carboplatin – irritant
Paclitaxel – vesicant

Investigations – pre first cycle

Investigation	Validity period
FBC	14 days
U+E (including creatinine)	14 days
LFT (including AST)	14 days
Random glucose	14 days

Investigations –pre subsequent cycles
FBC, U+E (including creatinine), LFT (including AST)
Calcium, magnesium, random glucose every 3 weeks
Consultation every week in radiotherapy

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	≥ 1.0 x 10^9/L
Platelet count	≥ 80 x 10^9/L
Creatinine clearance	≥ 20 mL/min (see below regarding changes in serum creatinine)
Bilirubin	≤ 1.5 x ULN
AST	< 5 x ULN

Dose modifications
Omit treatment until platelets ≥80 and neutrophils ≥1
GCSF Is not usually administered during radiotherapy

Recalculate carboplatin dose if serum creatinine increases by >20% from baseline

Adverse effects - for full details consult product literature/ reference texts
Hypersensitivity reactions, myalgia, neuropathy, alopecia, nausea and vomiting, fatigue, bone marrow suppression, skin reaction, osteoporotic fractures, constipation

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

Paclitaxel is a CYP2C8 and CYP3A4 substrate. Drug levels may be increased by inhibitors of these enzymes and decreased by inducers of these enzymes.

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

Carboplatin SPC (accessed 21/6/24): https://www.medicines.org.uk/emc/product/3787
Paclitaxel SPC (accessed 21/6/24): https://www.medicines.org.uk/emc/product/3891/smpc

THIS PROTOCOL HAS BEEN DIRECTED BY DR PORTNER, CONSULTANT ONCOLOGIST

RESPONSIBILITY FOR THIS PROTOCOL LIES WITH THE HEAD OF SERVICE

Date: June 2024
Review: June 2026
VERSION: 2