Systemic Anti Cancer Treatment Protocol

Paclitaxel and Gemcitabine Advanced Breast Cancer

PROTOCOL REF: MPHAPAGEBR
(Version No: 1.0)

Approved for use in:

Metastatic breast cancer where initial chemotherapy (including anthracycline) has failed.

PS 0-1

Dosage:

Drug	Dosage	Route	Frequency
Paclitaxel	**175mg/m²**	IV	Day 1
Gemcitabine	**1250mg/m²**	IV	Day 1 and Day 8

Repeated every 21 days, for 6 cycles.

May continue if responding to treatment and no significant toxicity

Supportive Treatments:

Domperidone 10mg tablets, to be taken up to three times a day as required

Extravasation risk:

Paclitaxel: Vesicant

Gemcitabine: Neutral

Administration:

- Paclitaxel must be administered using a non-PVC giving set with a 0.22 micron filter.

- Paclitaxel in solution may show haziness which is attributed to the formulation of paclitaxel.
- Excessive shaking, agitation, or vibration of paclitaxel may induce precipitation and should be avoided
- Premedication treatment of chlorphenamine, dexamethasone and ranitidine is given prior to paclitaxel to reduce the risk of hypersensitivity. Paclitaxel reactions commonly occur within the first few minutes of starting the infusion most likely with the first two cycles.

Day	Drug	Dose	Route	Diluent and rate
1	Dexamethasone	20mg	IV bolus	30 minutes before chemotherapy
1	Ranitidine	50mg	IV bolus	30 minutes before paclitaxel
1	Chlorphenamine	10mg	IV bolus	30 minutes before paclitaxel
1	**Paclitaxel**	**175mg/m²**	**IV Infusion**	**500mL sodium chloride 0.9% over 3 hours**
1	**Gemcitabine**	**1250mg/m^2**	**IV Infusion**	**250mL sodium chloride 0.9% over 30 minutes**
8	Dexamethasone	8mg	Oral	30 mins before chemotherapy
8	**Gemcitabine**	**1250mg/m^2**	**IV Infusion**	**250mL sodium chloride 0.9% over 30 minutes**

Main Toxicities

Haematological	Myleosuppression. Neutropenia, thrombocytopenia, anaemia.
Gastrointestinal	Diarrhoea, nausea, vomiting, mucosal inflammation
Cardiac	Bradycardia. Arrythmias. Heart failure.
Dermatological	Alopecia. Erythematous rash. Transient skin and nail changes (mild). Pruritis. Itching. Sweating.
Vascular disorders	Hypotension, thrombosis, hypertension, thrombophlebitis. Peripheral vasculitis.

Respiratory	Dyspnoea. Cough. Pulmonary oedema, interstitial pneumonitis and adult respiratory distress syndrome have been reported with gemcitabine.
Nervous System	Peripheral neuropathy. Headache. Insomnia. Somnolence.
Hypersensitivity reactions	Paclitaxel infusion-related hypersensitivity reactions
General	Myalgia/arthralgia. Flu-like syndrome. Ovarian failure/infertility. Peripheral oedema (mild –moderate & reversible), facial oedema. Injection site reactions. Back pain. Rhinitis is common with gemcitabine. Elevation of LFTs and alkaline phosphatase. Increased bilirubin levels. Gemcitabine can commonly cause anorexia Infertility, early menopause

Investigations and Treatment Plan:

	Pre	Cycle 1	Cycle 1d8	Cycle 2	Cycle 2d8	Cycle 3	Ongoing
Medical Assessment	X			X			Alternate cycles
Nursing Assessment	X	X	X	X	X	X	Every cycle
FBC	X	X	X	X	X	X	Every cycle
Magnesium		X		X		X	Day 1 only
U&E & LFT	X	X	X	X	X	X	Every cycle
Informed Consent	X						
CT scan	X						Every 8 to 12 weeks as clinically indicated
PS recorded	X	X	X	X	X	X	Every cycle
Toxicities documented	X	X	X	X	X	X	Every cycle
Weight recorded	X	X	X	X	X	X	Every cycle

Dose Modifications:

Haematological toxicity

Day 1 Paclitaxel and Gemcitabine

Proceed on day 1 if:-

Platelets ≥ 100 x 10^9/L	ANC ≥ 1.0 x 10^9/L

Delay 1 week on day 1 if:-

Platelets ≤ 99 x 10^9/L	ANC ≤ 0.9 x 10^9/L

Day 8 Gemcitabine

Proceed on day 8 if:

Platelets ≥ 75 x 10^9/L	ANC ≥ 1.0 x 10^9/L

Omit day 8 if the above parameters are not met, and restart on day 1 of subsequent cycle

Non-haematological toxicity

Hepatic Impairment

For paclitaxel, if bilirubin < 1.25 x ULN and ALT < 10 x ULN, proceed with full dose. Otherwise, consider a dose reduction. Not recommended in severe hepatic impairment If bilirubin > 27 µmol/L, consider initiating treatment with gemcitabine 800mg/m².

Peripheral neuropathy: If a Grade 2 or worse neuropathy develops, paclitaxel should be reduced to 135mg/m² in all subsequent cycles.
If progressive neuropathy is observed after this dose reduction, then treatment with paclitaxel should be discontinued.

Myalgia / Arthralgia: Due to paclitaxel and often co-exist, usually Grade 1 or 2. Management consists of prescribing NSAIDs and reassuring patient that it is self-limiting.

References:

SPC Paclitaxel

SPC Gemcitabine

Albain K et al, JCO 2008 26(24):3950-7 Gemcitabine plus paclitaxel

NICE Clinical Guideline on Advanced Breast Cancer, Updated 2017