Gemcitabine (1000mg/m^2) Monotherapy - 28 day

INDICATIONS FOR USE:

INDICATION	ICD10	Regimen Code	Reimbursement Status
Adjuvant chemotherapy for pancreatic adenocarcinoma	C25	00284a	Hospital
Treatment of elderly patients or patients with ECOG =2 with locally advanced or metastatic non small cell lung cancer (NSCLC)	C34	00284b	Hospital

TREATMENT:

The starting dose of the drugs detailed below may be adjusted downward by the prescribing clinician, using their independent medical judgement, to consider each patients individual clinical circumstances.

Adjuvant treatment of pancreatic adenocarcinoma:
Gemcitabine is administered once weekly for 3 consecutive weeks followed by a 1 week pause for 6 cycles (1 cycle = 28 days) or until disease progression or unacceptable toxicity develops.

Treatment of NSCLC:
Gemcitabine is administered once weekly for 3 consecutive weeks followed by a 1 week pause (1 cycle = 28 days) or until disease progression or unacceptable toxicity develops.

Facilities to treat anaphylaxis MUST be present when the chemotherapy is administered.

Day	Drug	Dose	Route	Diluent & Rate	Cycle
1, 8 and 15	Gemcitabine	1000mg/m^2	IV infusion	250ml NaCl 0.9% over 30mins	Every 28 days

ELIGIBILTY:

- Indications as above
- ECOG 0-2
- Macroscopic complete resection of tumour
- Adequate marrow reserve (ANC >1.5 x10^9/L, platelets >100x10^9/L)
- Adequate renal (creatinine ≤ 1.5xULN) and liver function (bilirubin ≤ 26micromol; AST/ALK ≤5xULN)

EXCLUSIONS:

- Hypersensitivity to gemcitabine or any of the excipients
- Breast feeding

PRESCRIPTIVE AUTHORITY:

The treatment plan must be initiated by a Consultant Medical Oncologist

TESTS:

Baseline tests:

- FBC, renal and liver profile
- Audiometry and creatinine clearance as clinically indicated

Regular tests:

- FBC prior to each treatment
- Renal and liver profile prior to each cycle

Disease monitoring:

Disease monitoring should be in line with the patient's treatment plan and any other test/s as directed by the supervising Consultant.

DOSE MODIFICATIONS:

- Any dose modification should be discussed with a Consultant.

Haematological:

Prior to commencing a new treatment cycle (i.e day 1), ANC must be >1x10^9/L and platelets >100x10^9/L.

Dose modifications for **gemcitabine within a cycle (i.e day 8 and 15)**

Table 1: Dose modifications for gemcitabine within a cycle (i.e day 8 and 15)

ANC (x 10^9 /L)		Platelet count (x 10^9 /L)		Other toxicity	Recommended dose of Gemcitabine
>1	and	> 100			100%
0.5- 1	or	50-100			75%
<0.5	or	<50			Omit. Do not restart treatment until ANC >0.5 and platelets >50
ANC <0.5 for >5 days **or** ANC <0.1 for >3 days **or** Any incidence of febrile neutropenia	**or**	< 25	**or**	cycle delay of >1 week due to any toxicity	Reduce dose to 75% of the original cycle initiation dose for all subsequent cycles.

Renal and Hepatic Impairment:

Table 2: Dose modification of Gemcitabine in renal and hepatic impairment

Drug	Renal Impairment		Hepatic Impairment
Gemcitabine	**CrCl (ml/min)**	**Dose**	AST elevations do not seem to cause dose limiting toxicities. If bilirubin >27 micromol/L, initiate treatment with dose of 800 mg/m^2.
	>30	100%	
	<30	Consider dose reduction clinical decision	

Management of adverse events:

Table 3: Dose Modification of gemcitabine for Adverse Events

Adverse reactions	Recommended dose modification
Grade > 3 Non-haematological toxicity (except nausea/vomiting)	Therapy with gemcitabine should be withheld (until toxicity has resolved to grade ≤1) and may be resumed with 50% dose reduction or treatment discontinued at discretion of prescribing consultant.
Grade > 4 Non-haematological toxicity	Discontinue treatment

SUPPORTIVE CARE:

EMETOGENIC POTENTIAL: Low **(Refer to local policy).**

PREMEDICATIONS: None usually required

OTHER SUPPORTIVE CARE: No specific recommendations

ADVERSE EFFECTS / REGIMEN SPECIFIC COMPLICATIONS:

The adverse effects listed are not exhaustive. Please refer to the relevant Summary of Product Characteristics for full details.

- **Neutropenia**: Fever or other evidence of infection must be assessed promptly and treated appropriately.
- **Pulmonary Toxicity**: Acute shortness of breath may occur. Discontinue treatment if drug-induced pneumonitis is suspected.
- **Cardiovascular:** Due to the risk of cardiac and/or vascular disorders with gemcitabine, particular caution must be exercised with patients presenting a history of cardiovascular events.
- **Irreversible renal failure** associated with haemolytic uraemic syndrome may occur rarely with gemcitabine. Use caution with pre-existing renal impairment.
- **Infusion time:** Infusion time prolonged beyond 60 minutes has been shown to increase volume of distribution and has been associated with an increase in toxicity. However, given in the context of a fixed dose rate (FDR) regimen, prolonged infusions have also been reported to produce a higher response rate than standard regimens in association with a higher intracellular accumulation of its active metabolite (dFdCTP) (7-10).

DRUG INTERACTIONS:

- Current drug interaction databases should be consulted for more information.

ATC CODE:

Gemcitabine L01BC05

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Version	Date	Amendment	Approved By
1			Prof Maccon Keane
2	6/12/2017	Updated title, indications, dosing for haematological toxicity and dosing in renal and hepatic impairment. Applied new NCCP regimen template	Prof Maccon Keane
3	06/11/2019	Reviewed.	Prof Maccon Keane

Comments and feedback welcome at oncologydrugs@cancercontrol.ie.