GEMCITABINE CISPLATIN

INDICATION (ICD10) C56, C67, C80

1. Metastatic bladder cancer bladder cancer
2. Neoadjuvant or adjuvant bladder cancer
3. 2nd or 3rd line relapsed ovarian cancer with carboplatin allergy
4. Unknown primary if appropriate (unlicensed)

PS 0, 1, 2

REGIMEN

Day 1	**GEMCITABINE**	1000mg/m^2**	IV infusion	#ml sodium chloride 0.9% over 30 minutes
	Prehydration			
	CISPLATIN	70mg/m^2*	IV infusion	#ml sodium chloride 0.9% over 2 hours
	Post hydration			
Day 8	**GEMCITABINE**	1000mg/m^2**	IV infusion	#ml sodium chloride 0.9% over 30 minutes

*or split cisplatin dose (35mg/m^2 on days 1 and 8) for patients with lower GFR
**ovarian elderly patients start at 750mg/m^2 days 1 and 8
diluent volume for dose prescribed as per national standardised product specification or licensed dose

CYCLE FREQUENCY AND NUMBER OF CYCLES

Neoadjuvant bladder cancer - every 21 days for up to 4 cycles
Adjuvant bladder cancer - every 21 days for 4 cycles
Metastatic bladder cancer - every 21 days for 6 cycles
Ovarian cancer– every 21 days for 6 cycles

ANTI-EMETICS

High risk day 1
Low risk day 8

CONCURRENT MEDICATION REQUIRED

Cisplatin	Ensure adequate pre and post hydration. If urine output is <100ml/hour or if patient gains >2kg in weight during IV administration post cisplatin give 20-40mg furosemide PO/IV.

EXTRAVASATION AND TYPE OF LINE / FILTERS

Cisplatin - exfoliant
Gemcitabine – neutral

No filters required
Peripheral line

INVESTIGATIONS

Blood results required before SACT administration

FBC, U&E including Mg^{++} (>0.4) and LFTs Neutrophils x 10^9/L ≥1.5 on day 1 or ≥1.0 on day 8 (gynae day 1 and 8 neutrophils ≥1, low threshold for omitting day 8 gynae) Platelets ≥100x10^9/L (ovarian day 8 platelets ≥75)	baseline and every cycle
Ideally EDTA GFR should be used Creatinine clearance (GFR) calculated, at the Consultant's discretion	baseline and every cycle
Serum creatinine	baseline and every cycle
CA125	baseline and every cycle
Audiology	baseline
Virology	before cycle 1 if not previously checked
Weight	baseline and every cycle

MAIN TOXICITES AND ADVERSE REACTIONS

Cisplatin	Nephrotoxicity – ensure adequate pre and post hydration is prescribed. Ototoxicity – assess patient for tinnitus or hearing abnormalities.
Gemcitabine	Diarrhoea – see dose modifications, treat with loperamide or codeine Mucositis – see dose modifications, use routine mouthcare

INTERACTIONS WHICH MAY REQUIRE DOSE MODIFICATIONS

(not exhaustive list check SPC/BNF/Stockleys)

Cisplatin	Aminoglycosides increased risk of nephrotoxicity and ototoxicity. Renal function should be well monitored and audiometric tests as required. Cisplatin can cause a decrease in phenytoin serum levels. This may lead to reappearance of seizures and may require an increase of phenytoin dosages.

DOSE MODIFICATIONS

Haematological

Gemcitabine

Neutrophils >1.5x10^9/L and platelets >100x10^9/L	give 100% dose
Day 1 Neutrophils <1.5x10^9/L or platelets <100x10^9/L	delay treatment (day 1)
Day 8 Neutrophils <1.0x10^9/L or platelets <100x10^9/L	omit treatment (day 8) or gynae see investigations above (day 8) (low threshold for omitting day 8)

Non-haematological
If patient complains of tinnitus, tingling of fingers and/or toes, discuss with SpR or Consultant before administration.

Gemcitabine

Diarrhoea and/or mucositis grade 2	omit until toxicity resolved then restart at 100% dose
Diarrhoea and/or mucositis grade 3	omit until toxicity resolved then restart at 75% dose
Diarrhoea and/or mucositis grade 4	omit until toxicity resolved then restart at 50% dose

Omit if treatment is delayed for more than 4 weeks but continue with Cisplatin

Hepatic impairment
Cisplatin
No need for dose adjustment is expected

Gemcitabine

Bilirubin >27µmol/L	initiate treatment with 80% dose

Renal impairment
Cisplatin

CrCl >60ml/min	give 100% dose
CrCl 50-59ml/min	give 75% dose
CrCl 40-49ml/min	give 50% dose (curative intent) not recommended (palliative intent)
CrCl <40ml/min	not recommended

Gemcitabine
No need for dose adjustment

REFERENCES
1. Pfisterer et al, Journal of Clinical Oncology 24, 4699-707
2. Papadimitriou et al.Gynaecological Oncology 2004, 92, p152-9
3. ICON 6 study

Assessments

	Pre	Cycle 1	Cycle 2	Cycle 3	Cycle 4	Ongoing
Clinical assessment	X		Pre cycle		Pre cycle	Every cycle
SACT assessment (PS and toxicities)	X	X	X	X	X	Every cycle
FBC	X	X	X	X	X	Every SACT
U&E, calcium, magnesium & LFT	X	X	X	X	X	Every cycle
CrCl	X	X	X	X	X	Every cycle
CA125	X	X	X	X	X	Every cycle
CT scan	X					At cycle 6, Inform consultant team if not booked
Audiology	X					
Informed consent	X					Verbal each cycle
Height	X					
Weight recorded	X	X	X	X	X	Every cycle