

CISPLATIN + RADIOTHERAPY

Concurrent chemotherapy with pelvic irradiation for locally advanced cervical or vaginal cancer
May also be used in vulvar cancer

- Drug/Dosage:** Cisplatin 35 - 40mg/m² IV once weekly for 5 - 7 weeks
(elderly patients, or those with poor performance status, should be started at the lower dose, with a dose increase if tolerated)
- Radiotherapy:** 50.4Gy in 28 fractions (1.8Gy/#) on Mondays to Fridays for 5½ weeks + 2-3# of brachytherapy +/- pelvic side wall boosts up to 9Gy/5#. RT must commence within 1 hour of the end of cisplatin infusion. Cisplatin must not be given on the same day as brachytherapy.
- Administration:** 1 litre 0.9% sodium chloride + 20mmol KCl + 10mmol MgSO₄ IV over 2 hours
Mannitol 20% 100ml IV over 15 minutes
Cisplatin in 1 litre 0.9% sodium chloride IV over 2 hours
1 litre 0.9% sodium chloride + 20mmol KCl + 10mmol MgSO₄ IV over 2 hours
500ml sodium chloride 0.9% IV **or** 500ml water orally over 1 hour
- Frequency:** weekly cisplatin during radiotherapy and brachytherapy
- Main Toxicities:** myelosuppression; neuropathy / ototoxicity; nephrotoxicity;
diarrhoea; skin soreness; urinary symptoms; ovarian failure / infertility
- Anti-emetics:** highly emetogenic
- Extravasation:** non - vesicant
- Regular Investigations:** FBC Day 1 (N.B. see Dose Modifications for Hb monitoring)
U&Es Day 1
Mg²⁺ and Ca²⁺ Day 1
LFTs Day 1
EDTA Prior to 1st cycle
- Comments:** For patients on Cycle 1 whose EDTA is not yet available, Cockcroft and Gault may be used to predict GFR. Cisplatin dose should be adjusted according to EDTA on subsequent cycles. EDTA should only be repeated if the result is borderline or if there is a 30% change in serum creatinine

Check electrolytes – additional supplementation of magnesium, calcium or potassium may be required.

Weight should be recorded prior to and at the end of cisplatin treatment, and a strict fluid balance chart should be maintained. An average urine output of at least 100ml/hr must be maintained throughout treatment, and cisplatin infusion should not be commenced unless this urine output is achieved. If the urine output is inadequate, the patient should be assessed and urine output increased by administering 500ml sodium chloride +/- furosemide 20 - 40mg. Furosemide 20 – 40mg po may also be given if there is a positive fluid balance of 1.5 litres, a weight gain of 1.5kg or symptoms of fluid overload. The patient

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Prepared by: S Taylor	Checked by: C Tucker

should be asked to drink 2 litres of fluid in the 24hrs following treatment, and to contact the hospital if this is impossible because of problems e.g. nausea and vomiting.

Dose Modifications

Haematological Toxicity: Neutrophils $< 1.5 \times 10^9/l$ or Platelets $< 100 \times 10^9/l$ Delay cisplatin for 1 week (RT to continue). Repeat count and, if within normal parameters, resume treatment at full dose.

Haemoglobin (Hb) needs to be maintained above 12g/dl throughout treatment^{1,2}. If the Hb falls below this level, a blood transfusion needs to be arranged (treatment may continue).

Renal Impairment: NB. Cisplatin is both eliminated primarily (>90%) in the urine and is itself nephrotoxic.

GFR (ml/min)	Cisplatin Dose
≥ 60	Give 100%
45 – 59	Give 75%
20 - 44	Cisplatin contra-indicated Carboplatin AUC 2*, administered in 250ml 5% Glucose over 30 minutes, may be substituted. It may be given according to this protocol, with however no requirement for pre- or post-hydration, nor fluid balance/urine monitoring
< 20	Carboplatin contra-indicated

*There is no consensus in the literature regarding the optimum carboplatin dose. This dose reflects SLCC Consultant preference and experience.

Carboplatin dose should be calculated using the Calvert Formula:

Dose = Target AUC x (25 + GFR)

Neurotoxicity: Grade 2: Reduce cisplatin dose to 30mg/m²
Grade 3 - 4: Discontinue cisplatin

References: Rose, PG et al, N Engl J Med 1999; 340: 1144 – 53
Keys, HM et al, N Engl J Med 1999; 340:1154 – 61
¹Grogan, M et al; Cancer 1999; 86: 1528 – 1536
²Dunst, J et al; Int J Rad Oncol Biol Phys 2003; 56 (3): 778 - 787

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