WEEKLY CISPLATIN & RADIOTHERAPY

1. Chemo-radiotherapy for advanced SCC Head and Neck Cancer
2. Treatment of advanced Nasopharyngeal Cancer, following 2 – 3 cycles of neo-adjuvant chemotherapy

NB. This modified protocol only for use in patients with good renal function and able to drink oral fluids

Drugs/Dosage:	**Starting on Day 1 of radiotherapy:** Cisplatin 40mg/m^2 IV once weekly for 6 – 7 weeks
Radiotherapy:	2Gy/fraction, given daily on weekdays only over 6½–7 weeks, to a total of 66-70Gy RT must commence within 1 hour of the end of cisplatin infusion
Administration:	1 litre 0.9% Sodium Chloride + 20mmol KCl + 10mmol $MgS0_4$ IV over 2 hours Mannitol 20% 100 ml 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 $MgS0_4$ IV over 2 hours 500ml 0.9% Sodium Chloride IV **or** 500ml - 1 litre water orally over 1 hour
Frequency:	one course only, consisting of 6 to 7 doses of concurrent weekly cisplatin
Main Toxicities:	myelosuppression; alopecia (mild); neuropathy / ototoxicity; nephrotoxicity; ovarian failure/infertility
Anti-emetics:	Cisplatin - highly emetogenic (as poorly controlled nausea is a difficult problem in this patient group, prescribe 2nd line anti-emetics for delayed nausea routinely with Cycle 1)
Regular Investigations:	FBC — once weekly pre-chemotherapy (N.B. see Haem Toxicity section for Hb requirements) U&Es & LFTs — once weekly pre-chemotherapy Mg^{2+} and Ca^{2+} — once weekly pre-chemotherapy EDTA — Prior to 1st cycle
Comments:	If patient has any baseline hearing problems, carboplatin AUC 2 should be substituted for cisplatin, administered as discussed below under Renal Impairment. For patients on Cycle 1 whose EDTA is not yet available, Cockcroft & Gault may be used to predict GFR. Cisplatin dose should be adjusted if necessary once EDTA available. EDTA should only be repeated if the result is borderline at the start of treatment or if there is a 30% change in serum creatinine. Check electrolytes – additional supplementation of magnesium, calcium and 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 0.9% IV +/- 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 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 x 10^9/l or Platelets < 100 x 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 this treatment[1]. 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% dose
45 – 59	Give 75% dose
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 contraindicated

*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/m^2
Grade 3 - 4: Discontinue cisplatin

References:

Al-Sarraf, M. et al, JCO (1998), Vol 16 (4): 1310 – 1317
Bachaud, J et al; International Journal Radiation Oncology Biology Physics (1996); 36 (5): 999 - 1004
Haematological toxicity advice taken from SLCC protocol for Cisplatin & RT (cervix)
[1]Prosnitz, RG et al; Int J Radiat Oncol Biol Phys 2005; 61: 1087 – 1095