BC Cancer Protocol Summary for Therapy of Advanced Osteosarcoma Using DOXOrubicin and CISplatin

Protocol Code	*SAAVAP*
Tumour Group	*Sarcoma*
Contact Physician	*Dr. Christine Simmons*

ELIGIBILITY:

- Patients with advanced osteogenic sarcoma
- Normal renal, cardiac and hepatic function

TESTS:

- Baseline and before each treatment: CBC & diff, platelets, electrolytes panel, creatinine, calcium, magnesium, albumin, bilirubin, alk phos, ALT, LDH, and GGT.
- If clinically indicated: chest x-ray or other imaging to monitor response

PREMEDICATIONS:

- ondansetron 8 mg PO/IV 30 to 60 minutes pre-chemotherapy and then 8 mg PO/IV every 12 hours for 3 days
- dexamethasone 8 mg PO/IV 30 to 60 minutes pre-chemotherapy and then 4 mg PO/IV bid for 4 days
- aprepitant 125 mg PO 30 to 60 minutes pre-chemotherapy on day 1, then 80 mg PO daily on day 2 and 3
- If intolerable nausea and vomiting develops, add nabilone 1 mg PO 30 to 60 minutes pre-chemotherapy to next cycle
- At discharge continue ondansetron 8 mg bid and dexamethasone 4 mg bid for 3 days

PRN'S:

- LORazapem 1 mg SL q 4 to 6 h PRN nausea, sleep or restlessness
- prochlorperazine 10 mg PO q 4 to 6 h PRN nausea
- diphenhydrAMINE 25 to 50 mg PO/IV q 4 to 6 h PRN
- nabilone 1 to 2 mg PO q 6 to 8 h PRN nausea

TREATMENT:

Drug	Dose	BC Cancer Administration Guideline
DOXOrubicin	75 mg/m^2 (consider 60mg/m^2 for age greater than 40)	IV push (may give during pre-hydration
CISplatin	100 mg/m^2	IV in 1 litre of NS with mannitol 30 g/L and potassium chloride 10 mEq/L to infuse over 2 hours

Repeat every 21 days until progression or toxicity

HYDRATION:

Pre-CISplatin:	D5W-1/2NS 1000 mL with potassium chloride 20 mEq and magnesium sulphate 2 g over 3 h. Prior to beginning **CISplatin**, urine output must be greater than or equal to 300 mL in 3 h. May repeat prehydration x 1 L to ensure urine output greater than 300 mL in 3 h. If urine output not adequate after 2 L, notify MD.
Post-CISplatin:	D5W-1/2NS with potassium chloride 20 mEq/L and magnesium sulphate 2 g/L at 200 mL/h for 12 h. Measure every 3 h in\output while on IV. If output less than 300 mL during a 3 h period, increase IV to 300 mL/h for 3 h. If urine output still less than 300 mL in a subsequent 3 h period, give **furosemide** 20 mg IV x 1. If output still not adequate, notify MD. May discontinue IV and discharge after post hydration if urine output adequate and patient not vomiting.

DOSE MODIFICATIONS:

1. **Hematological:** Reduce dose of DOXOrubicin only

ANC ($x10^9$/L)		Platelets ($x10^9$/L)	Dose
greater than or equal to 1.5	and	greater than or equal to 100	100%
1.0 to less than 1.5	or	70 to less than 100	80%
less than 1.0	or	less than 70	Delay 1 week

2. **Renal dysfunction:** Calculate creatinine clearance with each cycle using the following formula:

$$\text{Creatinine clearance} = \frac{\text{N* x (140 - Age) x Weight (kg)}}{\text{Serum creatinine}}$$

* For males N= 1.23; For females N=1.04

Dose reduction for CISplatin should be considered if creatinine clearance changes to less than 60 mL/min

If serum creatinine done the next day after hydration remains elevated, consider dose reduction for CISplatin:

Creatinine (micromol/L)	CISplatin
less than 135	100%
136 to 180	50%
greater than 180	Delay 1 week

3. **Mucositis**: Grade 3 or 4, reduce DOXOrubicin to 80%
4. **Nausea & Vomiting:** Grade 4 despite optimal use of antiemetics, reduce dose of all drugs to 80% or QUIT
5. **Neurotoxicity:** If patient experiences hearing loss or clinically/functionally significant neuropathy, discontinue CISplatin
6. **Neutropenic Fever** (with ANC less than 0.5 x 10^9/L): Once counts have recovered, reduce dose of DOXOrubicin to 80% (CISplatin may be given at 100%) and continue with these dose revisions for future cycles

PRECAUTIONS:

1. **Neutropenia:** Fever or other evidence of infection must be assessed promptly and treated aggressively. Refer to BC Cancer Febrile Neutropenia Guidelines.
2. **Extravasation:** DOXOrubicin causes pain and tissue necrosis if extravasated. Refer to BC Cancer Extravasation Guidelines.
3. **Cardiac Toxicity:** DOXOrubicin is cardiotoxic and must be used with caution, if at all, in patients with severe hypertension or cardiac dysfunction. Cardiac assessment recommended at 5 years (see TESTS for details)
4. **Renal Toxicity:** Nephrotoxicity is common with CISplatin. Encourage oral hydration. Avoid nephrotoxic drugs such as aminoglycoside

Call Dr. Christine Simmons or tumour group delegate at (604) 877-6000 or 1-800-663-3333 with any problems or questions regarding this treatment program.