

BC Cancer Protocol Summary for Hyperthermic Intraperitoneal Chemotherapy (HIPEC) for Patients with Peritoneal Desmoplastic Small Round Cell Tumour (DSRCT) Using CISplatin

Protocol Code

SAHIPEC

Tumour Group

Sarcoma

Contact Physician

*Dr. Christine Simmons
Dr. Yarrow McConnell*

The cytoreductive surgery and hyperthermic intraperitoneal chemotherapy are to be carried out only at the Vancouver General Hospital with the participation of Medical Oncology, BCCA.

ELIGIBILITY:

- All cases considered for cytoreductive surgery (CRS) with hyperthermic intraperitoneal chemotherapy (HIPEC) must be reviewed in a multidisciplinary tumour conference, including subspecialty pathology review.
- Peritoneal desmoplastic small round cell tumour
- Adequate marrow reserve (ANC greater than or equal to $1.5 \times 10^9/L$, platelets greater than $100 \times 10^9/L$)
- Adequate renal (Creatinine Clearance greater than or equal to 60 mL/min) and liver function

ABSOLUTE CONTRAINDICATIONS:

- ECOG > 2
- Unresectable disease on preoperative imaging
- Extra-abdominal metastases
- Multifocal malignant small bowel obstruction
- Co-morbidities precluding extensive surgery (renal failure, cardiac disease, COPD, irreversible hematological disorders, and other)

RELATIVE CONTRAINDICATIONS:

- Age > 70 years
- Extensive disease not amenable for R0/1 resection
- Disease progression while on chemotherapy
- Bilateral hydronephrosis

TESTS:

Before treatment:

- Baseline: CBC and differential, Creatinine, Bilirubin, ALT, Alkaline Phosphatase and appropriate tumour markers.
- CT chest/abdomen/pelvis to evaluate extent of disease

PREMEDICATIONS:

- For most patients this regimen has low/moderate emetogenicity. Some patients may require pre-treatment antiemetics.
- See SCNAUSEA protocol.

TREATMENT:

Drug	Dosage	BC Cancer Administration Guidelines
CISplatin	100 mg/m ²	INTRAPERITONEAL mixed in 3 L of 1.5% dextrose peritoneal dialysis solution with calcium 2.4 mEq/L and perfused for 90 minutes at intraperitoneal temperature 40-42°C using open “coliseum” technique and Belmont hyperthermia pump, flow rate 1000 mL/min

DOSES TO BE BASED ON IDEAL BODY WEIGHT (IBW):

$$BSA (m^2) = \sqrt{\frac{Height (cm) \times Weight (kg)}{3600}}$$

Ideal Body Weight (IBW):

Males:

- IBW (kg) = 51.65 + 0.73 (height in cm – 152.4)

Females:

- IBW (kg) = 48.67 + 0.65 (height in cm – 152.4)

DOSE MODIFICATIONS:

Clinical Criteria for Dose Modification	Dose
Age greater than 60 years	75%

DOSE MODIFICATION IN RENAL DYSFUNCTION

Creatinine Clearance (mL/min)	CISplatin Dose
Greater than or equal to 60	100%
45 to less than 60	75%
Less than 45	Consider omitting

Cockcroft/Gault formula:

$$CrCl (mL/min) = \frac{N (140-age) \times weight (kg)}{serum creatinine (micromol/L)}$$

Where N = 1.04 for females, and 1.23 for males

NON-HEMATOLOGICAL TOXICITY REQUIRING DOSE MODIFICATIONS:

1. **Neuropathy:** Dose modification or discontinuation may be required (See [BC Cancer Drug Manual](#)).

PRECAUTIONS:

1. **Neutropenia:** Fever or other evidence of infection must be assessed promptly and treated aggressively. Refer to BC [Cancer Febrile Neutropenia Guidelines](#).
2. **Nephrotoxicity:** Nephrotoxicity is common with CISplatin. Encourage oral hydration. Avoid nephrotoxic drugs such as aminoglycoside antibiotics.

Call Dr. Yarrow McConnell at 604-875-4111 or Dr. [Christine Simmons](#) (or Sarcoma Tumour Group delegate) at (604) 877-6000 or 1-800-663-3333 with any problems or questions regarding this treatment program.

References:

1. Hayes-Jordan A, et al. Complete cytoreduction and HIPEC improves survival in desmoplastic small round cell tumor. *Ann Surg Oncol* 2014;21:220-4.
2. Lal DR, et al. Results of multimodal treatment for desmoplastic small round cell tumors. *J Pediatr Surg* 2005;40(1):251-5.
3. Hayes-Jordan A, Anderson PM. The diagnosis and management of desmoplastic small round cell tumor. *Curr Opin Oncol* 2011;23:385-9.