

BC Cancer Protocol Summary for Palliative Therapy for Metastatic Breast Cancer Using Metronomic Low-Dose Oral Cyclophosphamide and Methotrexate

Protocol Code

BRAVCMPO

Tumour Group

Breast

Contact Physician

BR Systemic Therapy

ELIGIBILITY:

Patients must have:

- Pretreated metastatic breast cancer, or
- Previously untreated metastatic breast cancer unsuitable for other chemotherapy treatment due to excess toxicity risk

Patients should have:

- ECOG performance status 0, 1, or 2
- Greater than 3 month life expectancy

EXCLUSIONS:

Patients must not have:

- Severe renal dysfunction, creatinine clearance less than 10 mL/min
- Severe hepatic dysfunction, bilirubin greater than 85 or ALT greater than 3 times the upper limit of normal (ULN)

TESTS:

- Baseline: CBC & Diff, creatinine, total bilirubin, ALT, alkaline phosphatase
- Before each treatment: CBC & Diff, total bilirubin, ALT
- If clinically indicated: creatinine, alkaline phosphatase

PREMEDICATIONS:

- Antiemetic protocol for low emetogenic chemotherapy protocols (see [SCNAUSEA](#))

TREATMENT:

| Drug | Dose | BC Cancer Administration Guideline |
|------------------|---|------------------------------------|
| cyclophosphamide | 50 mg orally once daily continuously | PO |
| methotrexate | 2.5 mg orally BID on Days 1 and 2 each week | PO |

1 cycle = 4 weeks

Repeat every 28 days for 6 to 8 cycles. Responding patient may be continued on treatment at the discretion of the treating physician. Discontinue if no response after 2 cycles or unacceptable toxicity.

DOSE MODIFICATIONS:**1. Hematological**

| ANC (x10 ⁹ /L) | | Platelets (x10 ⁹ /L) | Dose (all drugs) |
|------------------------------|-----|---------------------------------|---|
| Greater than or equal to 1.5 | and | Greater than or equal to 100 | 100% |
| Less than 1.5 | or | Less than 100 | Delay until ANC is greater than or equal to 1.5, or discontinue |

2. Renal dysfunction**For Methotrexate:**

| GFR (mL/min) | Dose |
|-----------------|------|
| Greater than 30 | 100% |
| 15 to 30 | 50% |
| Less than 15 | Omit |

$$\text{GFR} = \frac{N * (140 - \text{Age}) \times \text{weight (kg)}}{\text{Serum Creatinine (micromol/L)}}$$

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

For Cyclophosphamide: Renal failure may lead to reduced excretion of metabolites and increased toxicity. Significant falls in clearance with increased exposure have been documented in patients with renal impairment. Severe renally impaired patients (CrCl less than 10 mL/min) are at particular risk and should be treated at reduced dose and with caution. See BC Cancer Drug Manual.

3. **Hepatic dysfunction:** Dose modification required for methotrexate.

| Total bilirubin (micromol/L) | or | ALT (units/L) | Methotrexate Dose |
|---|----|--------------------------|------------------------------|
| 50 to 85 | | 3 x ULN | 2.5 mg daily on Days 1 and 2 |
| Greater than 85 | | Greater than 3 x ULN | Omit |

PRECAUTIONS:

1. **Neutropenia:** Fever or other evidence of infection must be assessed promptly and treated aggressively. Refer to BC Cancer Febrile Neutropenia Guidelines.

Contact the BR Systemic Therapy physician at your regional cancer centre or the BR Systemic Therapy Chair with any problems or questions regarding this treatment program.

References:

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