

BC Cancer Protocol Summary for Solid Tumours using Intrathecal Methotrexate and/or Thiotepa and/or Cytarabine

Protocol Code:

MOIT

Tumour Group:

Miscellaneous Origin

Contact Physician:

Dr. [Angela Chan](#)

ELIGIBILITY:

- leptomeningeal disease associated with solid tumours

TESTS:

- Baseline: CBC and differential, CSF cytology
- Weekly before treatment: CBC and differential
- To assess response: CSF cytology

PREMEDICATIONS:

- not usually required

TREATMENT:

Drug	Dose	BC Cancer Administration Guideline <ul style="list-style-type: none"> By physician only Lumbar puncture tray required if no Ommaya reservoir
methotrexate	12 mg once or twice weekly*	Intrathecal (via lumbar puncture or Ommaya ventricular reservoir) qs to 6 mL preservative-free NS
* or		
thiotepa	12 mg once or twice weekly*	Intrathecal (via lumbar puncture or Ommaya ventricular reservoir) qs to 6 mL preservative-free NS
* or		
cytarabine	50 mg once or twice weekly*	Intrathecal (via lumbar puncture or Ommaya ventricular reservoir) qs to 6 mL preservative-free NS

*Maximum 2 intrathecal chemotherapy treatments weekly (eg, Monday and Thursday).

Give one drug each treatment.

- Drugs may be alternated (eg, methotrexate alternating with thiotepa for a maximum of 2 intrathecal chemotherapy treatments per week) or single agents may be used.
- Methotrexate and thiotepa are most commonly used in breast cancer, cytarabine in lymphomas (see protocol LYIT). However, the oncologist may use any of the above depending on the clinical situation.

The drugs are generally given twice a week for 2-4 weeks and then once weekly for a total of 10-12 treatments if there is a response (improved symptoms and decreased malignant cells in CSF).

If there is no response, radiation or supportive care only are options for treatment.

Procedure for Injecting Chemotherapy into the Intraventricular Space Using an Ommaya Reservoir (By Physician Only)

1. Check that chemotherapy is mixed in **preservative free** normal saline.
2. Use sterile technique, gloves, mask, etc.
3. Have patient in the lying or sitting position.
4. Cleanse skin over the Ommaya reservoir and surrounding scalp with antiseptic after shaving away any recent hair growth.
5. Attach a 25 gauge butterfly needle to a 12 mL syringe.
6. Insert the 25 gauge needle perpendicular to the scalp until the back wall of the reservoir is contacted.
7. Slowly aspirate 6 mL of CSF. Send for cytology and/or culture if appropriate.
8. Attach chemotherapy syringe and inject slowly over about 5 minutes. A more rapid injection frequently causes acute or delayed headaches.
9. To facilitate the flow of the chemotherapy you may gently depress the Ommaya reservoir a few times. Another alternative to flush the system with 1-3 mL of preservative free saline after injecting the chemotherapy. This requires the removal of a similar volume of CSF with the initial CSF withdrawal.
10. Have patient remain at bedrest for 30 minutes after procedure in prone (abdomen down) position.

DOSE MODIFICATIONS:

1. Hematological

ANC (x10 ⁹ /L)		Platelets (x10 ⁹ /L)	Dose (all drugs)
greater than or equal to 0.5	and	greater than or equal to 40	100%
less than 0.5	or	less than 40	delay

2. **Symptomatic oral mucositis or arachnoiditis:** Delay until resolved.

PRECAUTIONS:

1. **Neutropenia:** There is some systemic absorption of intrathecal chemotherapy. This may be further complicated by systemic therapy if given concurrently or by poor marrow tolerance due to previous therapy. Fever or other evidence of infection must be assessed promptly and treated aggressively.

2. **Precautions for Intrathecal Administration:** refer to BC Cancer Intrathecal Policy.

Call Dr. [Angela Chan](#) or tumour group delegate at **604-930-2098** or **1-800-523-2885** with any problems or questions regarding this treatment program.