BC Cancer Protocol Summary for Maintenance Therapy of Advanced Non-Small Cell Lung Cancer with 6-Weekly Pembrolizumab

Protocol Code	*LUAVPMBM6*
Tumour Group	*Lung*
Contact Physician	*Dr. Sophie Sun*

ELIGIBILITY:

- Advanced non-small cell lung cancer
- Eligible for and no disease progression after 4 cycles of pembrolizumab-chemotherapy (LUAVPPPMB if intolerance to pemetrexed, LUAVPCPMB or LUAVPGPMB)
- Maintenance therapy to be started 21 to 42 days after final cycle of pembrolizumab-chemotherapy
- ECOG 0-2 at the start of maintenance
- Adequate hepatic and renal function
- Asymptomatic/stable brain metastases (if applicable)
- Access to a treatment centre with expertise to manage immune-mediated adverse reactions of pembrolizumab
- CAP approval is not required to switch between LUAVPMBM and LUAVPMBM6
- NOTE:
    - Use of first-line/maintenance pembrolizumab precludes the use of nivolumab and atezolizumab as any subsequent line of therapy in the same patient

EXCLUSIONS:

- ECOG performance status > 2
- Active, known or suspected autoimmune disease
- Use with caution in patients with long term immunosuppressive therapy or systemic corticosteroids (requiring more than 10 mg predniSONE/day or equivalent)

TESTS:

- Baseline: CBC & differential, platelets, creatinine, alkaline phosphatase, ALT, total bilirubin, LDH, sodium, potassium, TSH, chest x-ray
- Before each treatment: CBC & differential, platelets, creatinine, alkaline phosphatase, ALT, total bilirubin, LDH, sodium, potassium, TSH
- If clinically indicated: chest x-ray, morning serum cortisol, lipase, glucose, serum or urine HCG (required for women of child bearing potential if pregnancy suspected), free T3 and free T4, serum ACTH levels, testosterone, estradiol, FSH, LH, ECG
- Weekly telephone nursing assessment for signs and symptoms of side effects while on treatment (Optional).

PREMEDICATIONS:

- Antiemetics are not usually required
- If required, antiemetic protocol for low emetogenicity (see SCNAUSEA)
- If prior infusion reactions to pembrolizumab: diphenhydrAMINE 50 mg PO, acetaminophen 325 to 975 mg PO, and hydrocortisone 25 mg IV 30 minutes prior to treatment

TREATMENT:

Drug	Dose	BC Cancer Administration Guideline
pembrolizumab	4 mg/kg (maximum 400 mg)	IV in 50 mL NS over 30 minutes Using a 0.2 micron in-line filter

- **Repeat every 6 weeks until disease progression, unacceptable toxicity or a maximum of 2 years of treatment (including doses given with chemotherapy and LUAVPMBM)**

DOSE MODIFICATIONS:

No specific dose modifications for pembrolizumab. Toxicity managed by treatment delay and other measures (see SCIMMUNE protocol for management of immune-mediated adverse reactions to checkpoint inhibitors immunotherapy, http://www.bccancer.bc.ca/chemotherapy-protocols-site/Documents/Supportive%20Care/SCIMMUNE_Protocol.pdf).

PRECAUTIONS:

1. **Serious immune-mediated reactions**: can be severe to fatal and usually occur during the treatment course, but may develop months after discontinuation of therapy. They may include enterocolitis, intestinal perforation or hemorrhage, hepatitis, dermatitis, neuropathy, endocrinopathy, pneumonitis, as well as toxicities in other organ systems. Early diagnosis and appropriate management are essential to minimize life-threatening complications (see SCIMMUNE protocol for management of immune-mediated adverse reactions to checkpoint inhibitors immunotherapy, http://www.bccancer.bc.ca/chemotherapy-protocols-site/Documents/Supportive%20Care/SCIMMUNE_Protocol.pdf).
2. **Infusion-related reactions:** isolated cases of severe infusion reactions have been reported. Discontinue pembrolizumab with severe reactions (Grade 3 or 4). Patients with mild or moderate infusion reactions may receive pembrolizumab with close monitoring and use of premedication.

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

REFERENCES:

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3. Postow M, Wolchok J. Toxicities Associated With Checkpoint Inhibitor Immunotherapy. UpToDate revised 2015. Accessed: www.uptodate.com, May 2016.
4. Borghaei H, Langer CJ, Gadgeel S, et al. 24-month overall survival from KEYNOTE-021 Cohort G: pemetrexed and carboplatin with or without pembrolizumab as first-line therapy for advanced non-small cell lung cancer. J Thora Oncol. 2019;14(1):124-129.
5. Gandhi L, Rodrigues-Abreu D, Gadgeel S, et al. Pembrolizumab plus chemotherapy in metastatic non-small cell lung cancer. N Engl J Med. 2018;378(22):2078-2092.
6. Ciuleanu T, Brodowicz T, Zielinski C, et al. Maintenance pemetrexed plus best supportive care versus placebo plus best supportive care for non-small-cell lung cancer: a randomised, double-blind, phase 3 study. Lancet 2009;374:1432-40.