Systemic Therapy Education Bulletin

BC Cancer news and updates from across the province for Systemic Therapy teams

Provincial Systemic Therapy Drug Programs Under Consideration

USMAJPEM

Treatment Programs	Indication: Under Review (Refer to protocol for more details)	Associated Adverse Events

Pembrolizumab	Adjuvant treatment of patients with **resected melanoma**	Possible adverse events **(any grade)**:
		• Immune-mediated adverse reactions: (see SCIMMUNE Resources)
		  ○ Skin:
		  ○ Rash
		  ○ Pruritus
		  ○ Enterocolitis:
		  • Diarrhea
		  • Abdominal pain
		  ○ Endocrine:
		  • Hypothyroidism/hyperthyroidism
		  • Fatigue
		  ○ Pulmonary:
		  • Pneumonitis
		  ○ Hepatic:
		  • Elevated alanine aminotransferase (ALT)
		  ○ Renal
		  • Increased serum creatinine
		• Infusion-related reactions

Dosing and Administration Information

Pre-medications:

- **Antiemetic:** low emetogenicity
- **Infusion reaction:** If prior reactions to pembrolizumab:
  diphenhydramine 50 mg PO, acetaminophen 325 to 975 mg PO, and hydrocortisone 25 mg IV

Dosing and Schedule:

- **IV pembrolizumab** 2 mg/kg (max dose 200 mg) every 3 weeks for 18 cycles (approximately 1 year), unless disease progression or unacceptable toxicity
  - To be given over 30 minutes using a 0.2 micron in-line filter

Additional Protocol Information:

- Optional weekly nursing assessment

BC Cancer Recommended Nurse and Chair Time

Cycle	Final Nurse Time (Rounded up to next 5min interval)	Final Chair Time (Rounded up to next 5min interval)
Cycle 1	**55**	**110**
Cycle 2+	**40**	**95**

ULYPEM & ULYPEM6

Treatment Programs	Indication: Under Review (Refer to protocol for more details)	Associated Adverse Events
Pembrolizumab	Treatment of patients with **relapsed or refractory Hodgkin lymphoma**	Possible adverse events **(any grade)**: Please refer to associated adverse events for USMAJPEM.

Dosing and Administration Information

Pre-medications:

- **Antiemetic:** low emetogenicity
- **Infusion reaction:** If prior reactions to pembrolizumab:
  diphenhydramine 50 mg PO, acetaminophen 325 to 975 mg PO, and hydrocortisone 25 mg IV

Dosing and Schedule:

- **IV pembrolizumab** 2 mg/kg (max dose 200 mg) every 3 weeks until disease progression, unacceptable toxicity or a maximum of 35 cycles or 2 years of treatment
  - To be given over 30 minutes using a 0.2 micron in-line filter

OR

- **IV pembrolizumab** 4 mg/kg (max dose 400 mg) every 6 weeks until disease progression, unacceptable toxicity or a maximum of 2 years of treatment
  - To be given over 30 minutes using a 0.2 micron in-line filter

Additional Protocol Information:

- Optional weekly nursing assessment

BC Cancer Recommended Nurse and Chair Time

Cycle	Final Nurse Time (Rounded up to next 5min interval)	Final Chair Time (Rounded up to next 5min interval)
Cycle 1	**55**	**110**
Cycle 2+	**40**	**95**

UGUAVPEM & UGUAVPEM6

Treatment Programs	Indication: Under Review (Refer to protocol for more details)	Associated Adverse Events
Pembrolizumab	Treatment of patients with **locally advanced or metastatic urothelial carcinoma**	Possible adverse events **(any grade)**: Please refer to associated adverse events for USMAJPEM.

Dosing and Administration Information

Pre-medications:

- **Antiemetic:** low emetogenicity
- **Infusion reaction:** If prior reactions to pembrolizumab: diphenhydramine 50 mg PO, acetaminophen 325 to 975 mg PO, and hydrocortisone 25 mg IV

Dosing and Schedule:

- **IV pembrolizumab** 2 mg/kg (max dose 200 mg) every 3 weeks until disease progression, unacceptable toxicity or a maximum of 35 cycles or 2 years of treatment
  - To be given over 30 minutes using a 0.2 micron in-line filter

OR

- **IV pembrolizumab** 4 mg/kg (max dose 400 mg) every 6 weeks until disease progression, unacceptable toxicity or a maximum of 2 years of treatment
  - To be given over 30 minutes using a 0.2 micron in-line filter

Additional Protocol Information:

- Optional weekly nursing assessment

BC Cancer Recommended Nurse and Chair Time

Cycle	Final Nurse Time (Rounded up to next 5min interval)	Final Chair Time (Rounded up to next 5min interval)
Cycle 1	**55**	**110**
Cycle 2+	**40**	**95**

Combination Phase: ULUAVPCPMB

Maintenance Phase: LUAVPMBM or LUAVPMBM6

Treatment Programs	Indication: Under Review (Refer to protocol for more details)	Associated Adverse Events
Pembrolizumab Plus Paclitaxel Plus Carboplatin	Treatment of patients with **advanced squamous non-small cell lung cancer (NSCLC)**	Possible adverse events **(any grade)**: • Immune-mediated adverse reactions: (see SCIMMUNE Resources) o Skin: ▪ Rash ▪ Pruritus o Enterocolitis: • Diarrhea • Abdominal pain o Endocrine: • Hypothyroidism/hyperthyroidism • Fatigue o Pulmonary: • Pneumonitis o Hepatic: • Elevated alanine aminotransferase (ALT) o Renal • Increased serum creatinine • Infusion-related reactions • Anemia • Neutropenia • Nausea and vomiting • Peripheral sensory neuropathy • Arthralgia/myalgia • Alopecia

Dosing and Administration Information

Premedications:

- **If NO prior reaction to pembrolizumab:**
  - IV dexamethasone 20 mg prior to paclitaxel
  - IV diphenhydramine 50 mg + IV ranitidine 50 mg (compatible up to 3 hours when mixed in bag) prior to paclitaxel
- **If prior reaction to pembrolizumab: Administer paclitaxel premedications prior to pembrolizumab**
  - IV dexamethasone 20 mg prior to pembrolizumab
  - IV diphenhydramine 50 mg + IV ranitidine 50 mg (compatible up to 3 hours when mixed in bag) prior to pembrolizumab
  - Oral acetaminophen 325 to 975 mg prior to pembrolizumab
- **Antiemetic:**
  - high emetogenic (see SCNAUSEA)

Dosing and Schedule:

- Combination Phase – repeat every 3 weeks x 4 cycles
  - **IV pembrolizumab** 2 mg/kg (max dose 200 mg) + **IV paclitaxel** 200 mg/m^2 + **IV carboplatin** 6 (or 5) AUC
    - Pembrolizumab: infuse over 30 minutes using a 0.2 micron in-line filter
    - Paclitaxel: infuse over 3 hours using non-DEHP bag and non-DEHP tubing with 0.2 micron or smaller inline filter
    - Carboplatin: infuse over 30 minutes
- Maintenance Phase – repeat every 3 OR 6 weeks
  - **IV pembrolizumab** 2 mg/kg (max dose 200 mg) every 3 weeks until disease progression, unacceptable toxicity or a maximum of 2 years of treatment
    - To be given over 30 minutes using a 0.2 micron in-line filter

    OR
  - **IV pembrolizumab** 4 mg/kg (max dose 400 mg) every 6 weeks until disease progression, unacceptable toxicity or a maximum of 2 years of treatment
    - To be given over 30 minutes using a 0.2 micron in-line filter

Additional Protocol Information:

- Optional weekly nursing assessment

BC Cancer Recommended Nurse and Chair Time

Cycle	Final Nurse Time (Rounded up to next 5min interval)	Final Chair Time (Rounded up to next 5min interval)
Cycle 1	**85**	**385**
Cycle 2 – 4	**65**	**370**
Cycle 5+	**40**	**95**

Combination Phase: ULUAVPGPMB

Maintenance Phase: LUAVPMBM or LUAVPMBM6

Treatment Programs	Indication: Under Review (Refer to protocol for more details)	Associated Adverse Events

Pembrolizumab
Plus
Gemcitabine
Plus
Cisplatin
	Treatment of patients with **advanced squamous non-small cell lung cancer (NSCLC)**	Possible adverse events **(any grade)**:
		• Immune-mediated adverse reactions: (see SCIMMUNE Resources)
		  ○ Skin:
		  ○ Rash
		  ○ Pruritus
		  ○ Enterocolitis:
		  • Diarrhea
		  • Abdominal pain
		  ○ Endocrine:
		  • Hypothyroidism/hyperthyroidism
		  • Fatigue
		  ○ Pulmonary:
		  • Pneumonitis
		  ○ Hepatic:
		  • Elevated alanine aminotransferase (ALT)
		  ○ Renal
		  • Increased serum creatinine
		• Infusion-related reactions
		• Anemia
		• Neutropenia
		• Nausea and vomiting
		• Flu- like illness
		• Peripheral sensory neuropathy
		• Edema

Dosing and Administration Information

Premedications:

- **Prior to cisplatin:**
  - 1000 mL NS over 1 hour
- **Infusion reaction:** If prior reactions to pembrolizumab:
  diphenhydramine 50 mg PO, acetaminophen 325 to 975 mg PO, and hydrocortisone 25 mg IV
- **Antiemetic:**
  - high emetogenic (see SCNAUSEA)

Dosing and Schedule:

- Combination Phase – repeat every 3 weeks x 4 cycles
  - Day 1: **IV pembrolizumab** 2 mg/kg (max dose 200 mg) + **IV gemcitabine** 1250 mg/m^2 (or 1000 mg/m^2 if carboplatin is used) + **IV cisplatin** 75 mg/m^2
    - Pembrolizumab: infuse over 30 minutes using a 0.2 micron in-line filter
    - Gemcitabine: infuse over 30 minutes
    - Cisplatin: infuse over 60 minutes
  - Day 8: **IV gemcitabine** 1250 mg/m^2 (or 1000 mg/m^2 if carboplatin is used)
    - Gemcitabine: infuse over 30 minutes
- Maintenance Phase – repeat every 3 OR 6 weeks
  - **IV pembrolizumab** 2 mg/kg (max dose 200 mg) every 3 weeks until disease progression, unacceptable toxicity or a maximum of 2 years of treatment
    - To be given over 30 minutes using a 0.2 micron in-line filter

    OR
  - **IV pembrolizumab** 4 mg/kg (max dose 400 mg) every 6 weeks until disease progression, unacceptable toxicity or a maximum of 2 years of treatment
    - To be given over 30 minutes using a 0.2 micron in-line filter

Additional Protocol Information:

- Optional weekly nursing assessment

BC Cancer Recommended Nurse and Chair Time

Cycle	Final Nurse Time (Rounded up to next 5min interval)	Final Chair Time (Rounded up to next 5min interval)
Cycle 1 Day 1	**70**	**265**
Cycle 1 Day 8	**40**	**85**
Cycle 2 - 4 Day 1	**55**	**250**
Cycle 2 - 4 Day 8	**40**	**85**
Cycle 5+	**40**	**95**

Combination Phase: ULUAVPPPMB

Maintenance Phase: LUAVPPMBM or LUAVPMBM or LUAVPMBM6

Treatment Programs	Indication: Under Review (Refer to protocol for more details)	Associated Adverse Events
Pembrolizumab Plus **Pemetrexed** Plus **Cisplatin**	Treatment of patients with **advanced non-squamous non-small cell lung cancer (NSCLC)**	Possible adverse events **(any grade)**: • Immune-mediated adverse reactions: (see SCIMMUNE Resources) ○ Skin: ○ Rash ○ Pruritus ○ Enterocolitis: • Diarrhea • Abdominal pain ○ Endocrine: • Hypothyroidism/hyperthyroidism • Fatigue ○ Pulmonary: • Pneumonitis ○ Hepatic: • Elevated alanine aminotransferase (ALT) ○ Renal • Increased serum creatinine • Infusion-related reactions • Neutropenia • Anemia • Nausea and vomiting • Loss of appetite

Dosing and Administration Information

Premedications:

- **Vitamin Supplementation:** starting at least 7 days prior to the first cycle, and to continue while on treatment, until 21 days after last pemetrexed dose
  - Folic acid 0.4 mg PO daily
  - Vitamin B_{12} 1000 mcg IM every 9 weeks
- **Prophylaxis for skin rash:**
  - dexamethasone 4 mg PO twice a day for 3 days, starting the day before chemotherapy
- **Prior to cisplatin:**
  - 1000 mL NS over 1 hour
- **Infusion reaction:** If prior reactions to pembrolizumab:
  diphenhydramine 50 mg PO, acetaminophen 325 to 975 mg PO, and hydrocortisone 25 mg IV
- **Antiemetic:**
  - high emetogenic (see SCNAUSEA)

Dosing and Schedule:

- Combination Phase – repeat every 3 weeks x 4 cycles
  - **IV pembrolizumab** 2 mg/kg (max dose 200 mg) + **IV pemetrexed** 500 mg/m^2 + **IV cisplatin** 75 mg/m^2
    - Pembrolizumab: infuse over 30 minutes using a 0.2 micron in-line filter
    - Pemetrexed: infuse over 10 minutes
    - Cisplatin: infuse over 60 minutes
- Maintenance Phase
  - **IV pembrolizumab** 2 mg/kg (max dose 200 mg) + **IV pemetrexed** 500 mg/m^2 every 3 weeks until disease progression, unacceptable toxicity or a maximum of 2 years of treatment
    - Pembrolizumab: infuse over 30 minutes using a 0.2 micron in-line filter
    - Pemetrexed: infuse over 10 minutes

    OR (for patients intolerant to pemetrexed)
  - **IV pembrolizumab** 2 mg/kg (max dose 200 mg) every 3 weeks until disease progression, unacceptable toxicity or a maximum of 2 years of treatment
    - To be given over 30 minutes using a 0.2 micron in-line filter

    OR
  - **IV pembrolizumab** 4 mg/kg (max dose 400 mg) every 6 weeks until disease progression, unacceptable toxicity or a maximum of 2 years of treatment
    - To be given over 30 minutes using a 0.2 micron in-line filter

Additional Protocol Information:

- Optional weekly nursing assessment

BC Cancer Recommended Nurse and Chair Time

Cycle	Final Nurse Time (Rounded up to next 5min interval)	Final Chair Time (Rounded up to next 5min interval)
Cycle 1	**70**	**240**
Cycle 2 – 4	**55**	**225**
Cycle 5+	**45**	**105**

Website Resources and Contact Information

CONTACT INFORMATION	EMAIL
To subscribe or update contact information, please contact:	
Provincial Systemic Therapy Program	ProvincialSystemicOffice@bccancer.bc.ca
Systemic Therapy Education Bulletin: http://www.bccancer.bc.ca/health-professionals/clinical-resources/systemic-therapy/education-bulletin	