

For Health Professionals Who Care For Cancer Patients

Inside This Issue:

- **Editor's Choice – New Programs:** Oxaliplatin with 5-FU or Capecitabine for Advanced Gastric, Gastroesophageal Junction or Esophageal Adenocarcinoma (GIGAVFFOX, GIGAVCOX), 3-Day Ifosfamide Regimen for Advanced Soft Tissue Sarcoma (SAAVI3), New SCIMMUNE Protocol and Patient Handout
- **Drug Update – Potential Drug Shortages:** BCG, Etoposide IV; **Drug Supply Discontinuation:** IntronA® Multidose Pens
- **Benefit Drug List – New:** GIGAVCOX, GIGAVFFOX, SAAVI3
- **Cancer Drug Manual – Revised:** Fluorouracil, Vismodegib, Chemotherapy Preparation and Stability Chart; Acknowledgment of CDM Contributors
- **Systemic Therapy Update – Changes to STU Editorial Board Membership**
- **List of New and Revised Protocols, Provincial Pre-Printed Orders and Patient Handouts – New:** GIGAVCOX, GIGAVFFOX, SAAVI3, SCIMMUNE; **Revised:** BRAVEVEX, UBRAVPALAI, GIAVCETIR, GIAVPANI, UGIFIRPAN, UGIFFOXPAN, GIGFLODOC, GOOVAI, ULYBENDR, ULYCLLBEND, MYBORREL, SMAJIFN
- **Website Resources and Contact Information**

EDITOR'S CHOICE

NEW PROGRAMS

Effective 01 January 2019, the BC Cancer Provincial Systemic Therapy Program has approved the following treatment programs:

Gastrointestinal:

Oxaliplatin with 5-Fluorouracil or Capecitabine for Advanced Gastric, Gastroesophageal Junction or Esophageal Adenocarcinoma (GIGAVFFOX, GIGAVCOX) – The standard of care for patients with these gastrointestinal (GI) tumours has traditionally been triplet therapy containing epirubicin, oxaliplatin and 5-fluorouracil (5-FU)/capecitabine (GIGAVEOF, GIGAVEOCAP). There is now evidence to suggest that the elimination of epirubicin does not compromise progression free and overall survival, while improving tolerability.¹ Hence, the Provincial Systemic Therapy Program has approved the combination therapy of oxaliplatin and 5-FU/capecitabine without epirubicin. This will replace the triplet regimens (GIGAVEOF, GIGAVEOCAP) as the new standard of care in this patient population.

Note that the administration schedule of 5-FU and capecitabine in the new GIGAVFFOX and GIGAVCOX regimens differ from that of the preexisting triplet regimens. Please refer to the new chemotherapy protocols for details.

Sarcoma:

3-Day Ifosfamide Regimen for Advanced Soft Tissue Sarcoma (SAAVI3) – The BC Cancer Sarcoma Tumour Group is introducing a modified schedule for administering ifosfamide – 3000 mg/m² daily over 4 hours for 3 days in a 21-day cycle. This modified schedule appears to be an acceptable alternative to the traditional 1-day regimen of 5000 mg/m² given as a 24-hour infusion (SAAVI).² The 3-day regimen is

EDITOR'S CHOICE

associated with higher but acceptable rates of toxicities that are mostly hematologic in nature. It can be considered when SAAVI delivery is not feasible.

References:

1. Ter Veer E, Haj Mohammad N, van Valkenhoef G, et al. The efficacy and safety of first-line chemotherapy in advanced esophagogastric cancer: a network meta-analysis. *J Natl Cancer Inst* 2016;108(10):doi: 10.1093/jnci/djw166.
2. Van Oosterom AT, Mouridsen HT, Nielsen OS, et al. Results of randomised studies of the EORTC Soft Tissue and Bone Sarcoma Group (STBSG) with two different ifosfamide regimens in first- and second-line chemotherapy in advanced soft tissue sarcoma patients. *Eur J Cancer* 2002;38(18):2397-406.

NEW SCIMMUNE PROTOCOL & PATIENT HANDOUT

A new **BC Cancer Protocol** and an accompanying **Patient Handout** are now available for the **Management of Immune-Mediated Adverse Reactions to Checkpoint Inhibitors Immunotherapy (SCIMMUNE)** – Checkpoint inhibitors such as CTLA-4 inhibitors (e.g. ipilimumab), PD-1 inhibitors (e.g. nivolumab, pembrolizumab), and PD-L1 inhibitors (e.g. atezolizumab, avelumab, durvalumab) are associated with serious immune-mediated reactions. The SCIMMUNE Protocol and Patient Handout provide guidance on how to manage such reactions to various organ systems including the lung, GI tract, liver, kidneys, skin, central nervous system and the endocrine system. Information contained in the SCIMMUNE documents was previously included in the appendix of the individual chemotherapy protocols.

DRUG UPDATE

POTENTIAL DRUG SHORTAGES

Bacillus Calmette-Guerin (BCG):

(Adapted from BC Cancer Briefing Note. 12Dec2018.)

Merck Canada Inc. is experiencing intermittent back orders of the BCG vaccine, OncoTICE[®], due to increased usage. At this time, Merck still has supplies and will continue to allocate supplies on a monthly basis. No conservation strategies are recommended at this time and BCG should still be preferentially used where available. In the event that BCG becomes unavailable in the future, alternative intravesical agents are available. A briefing note was circulated on 12 December 2018 to the regional leadership at BC Cancer and CON sites. Please see the briefing note for further details about the potential drug shortage and treatment alternatives.

Etoposide IV:

(Adapted from BC Cancer Briefing Note. 12Dec2018.)

Canada is anticipating supply shortages of two injectable forms of etoposide in early 2019:

1. **Preservative-free etoposide injectable (Teva Canada)** – Teva has some supplies available in certain vial sizes, but anticipates shortages through March 2019.
2. **Etoposide injectable with preservatives (Sandoz Canada)** – Sandoz is currently allocating supply at 50% of historical purchase levels. It is anticipated that their stock will be depleted by February 2019 and will not be available again until June 2019.

A briefing note was circulated on 12 December 2018 to the regional leadership at BC Cancer and CON

DRUG UPDATE

sites. Please see the briefing note for further details about the potential drug shortage and treatment alternatives.

DRUG SUPPLY DISCONTINUATION

Merck Canada Inc. has discontinued the manufacturing, distribution and supply of the following IntronA® (interferon alfa-2b) Multidose Pens at the end of 2018:

- IntronA® Multidose Pen, 18 x 10⁶ units
- IntronA® Multidose Pen, 30 x 10⁶ units
- IntronA® Multidose Pen, 60 x 10⁶ units

Product discontinuation was not related to product quality or safety concerns. Patients currently using these products can be switched to alternative dosage forms that will continue to be available (Table 1). No new patients should be started on IntronA® Multidose Pens.

Table 1. Alternative IntronA® (interferon alfa-2b) dosage forms

Product	Format	DIN
IntronA® Lyophilized Powder, 10 x 10 ⁶ units	Vial	02223406
IntronA® Ready-to-Use Solution, 10 x 10 ⁶ units	Vial	02238675
IntronA® Ready-to-Use Solution, 18 x 10 ⁶ units	Vial	02238674
IntronA® Ready-to-Use Solution, 25 x 10 ⁶ units	Vial	02238675

BENEFIT DRUG LIST

NEW PROGRAMS

Effective 01 January 2019, the following treatment programs have been added to the BC Cancer [Benefit Drug List](#):

Protocol Title	Protocol Code	Benefit Status
Palliative Treatment of Metastatic or Locally Advanced Gastric, Gastroesophageal Junction, or Esophageal Adenocarcinoma using Capecitabine and Oxaliplatin	GIGAVCOX	Class I
Palliative Treatment of Metastatic or Locally Advanced Gastric, Gastroesophageal Junction, or Esophageal Adenocarcinoma using Oxaliplatin, Fluorouracil and Leucovorin	GIGAVFOX	Class I
3-Day Ifosfamide for Use in Patients with Advanced Soft Tissue Sarcoma	SAAVI3	Class I

REVISED MONOGRAPHS AND PATIENT HANDOUTS

Highlights of key changes and/or updates to the Monographs, Patient Handouts and Chemotherapy Preparation and Stability Chart (CPSC) are listed below:

Fluorouracil Monograph:

- *Parenteral Administration table:* revised rate of IV push

Vismodegib Monograph:

- *Cautions:* added risk factors for hepatotoxicity
- *Special Populations:* added details about use in pediatric population
- *Side Effects:* added new side effects reported through postmarketing surveillance
- *Interactions:* added rabeprazole interaction; updated information on CYP P450 drug interactions
- *Supply and Storage:* updated information on controlled distribution program
- *Dosing:* updated information on renal and hepatic dosing

Chemotherapy Preparation and Stability Chart:

- *Bortezomib:* included extended stability for Actavis brand; updated references
- *Fluorouracil:* updated vial stability for Sandoz brand
- *Dacarbazine:* added Pfizer brand
- *Mesna:* added Baxter brand
- *Ipilimumab:* corrected typo in product column
- *Mitomycin:* updated references

ACKNOWLEDGMENT OF CDM CONTRIBUTORS

The Cancer Drug Manual (CDM) writing staff would like to acknowledge the invaluable contributions of the CDM Editorial Review Board members and Expert Reviewers. Thank you for your ongoing support of the CDM and for generously sharing your time and expertise throughout 2018.

Editorial Board	Expert Reviewers
<p><u>Physicians:</u> Angela Chan (medical oncologist, Surrey) Dave Fenton (medical oncologist, Victoria) Deepa Wadhwa (medical oncologist, Kelowna) Jeff Davis (pediatric oncologist, BC Children’s Hospital)</p> <p><u>Nurses:</u> Megan Crosby (Prince George) Terri Gray (Prince George) Karen Janes (Vancouver Centre) Michelle LaFreniere (Victoria)</p> <p><u>Pharmacists:</u> Mandeep Bains (Vancouver) Jennifer Cowie (Abbotsford) Sanna Pellatt (Victoria) Roberta Esau (BC Children’s Hospital) Jennifer Kendrick (BC Children’s Hospital)</p>	<p><u>Physicians:</u> David Fenton (medical oncologist, Victoria) Alina Gerrie (hematologist, Vancouver) Christopher Lee (medical oncologist, Surrey) David Sanford (hematologist, Vancouver) Anna Tinker (medical oncologist, Vancouver) Diego Villa (medical oncologist, Vancouver)</p> <p><u>Pharmacists:</u> Alysha Bharmal (Surrey) Linda Hamata (Vancouver) Judith Nyrose (Kelowna) Khushminder Rai (Abbotsford) Robert Tillmanns (Abbotsford) Katherine Lacaria (Vancouver General Hospital)</p>

SYSTEMIC THERAPY UPDATE

CHANGES TO STU EDITORIAL BOARD MEMBERSHIP

The Systemic Therapy Update (STU) Editorial Board would like to bid farewell to the following members as they step down from the Board to pursue other opportunities:

- Mark Goodwin, Reference Librarian, BC Cancer-Vancouver
- Jagbir Kaur, Nurse Educator, Provincial Professional Practice, Nursing
- Judi Piper-Wallace, Manager of Clinical Services, BC Cancer-Kelowna

The STU Editorial Board would like to thank Mark, Jagbir and Judi for their expertise and contributions to the Systemic Therapy Update over the past several years. We wish them all the best in their future endeavours.

At this time, we would also like to welcome Ava Hatcher (Senior Practice Leader, Nursing, BC Cancer-Centre for the North) and Naren Bollipalli (Interim Professional Practice Leader, Pharmacy, BC Cancer-Centre for the North) to the Editorial Board.

LIST OF REVISED PROTOCOLS, PRE-PRINTED ORDERS AND PATIENT HANDOUTS

BC Cancer Protocol Summaries, Provincial Pre-Printed Orders (PPPOs) and Patient Handouts are revised periodically. New, revised or deleted protocols, PPPOs and patient handouts for this month are listed below. Protocol codes for treatment requiring BC Cancer Compassionate Access Program approval are prefixed with the letter “U”.

NEW PROTOCOLS, PPPOs AND PATIENT HANDOUTS (AFFECTED DOCUMENTS ARE CHECKED)

CODE	Protocol	PPPO	Patient Handout	Protocol Title
GIGAVCOX	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	Palliative Treatment of Metastatic or Locally Advanced Gastric, Gastroesophageal Junction, or Esophageal Adenocarcinoma using Capecitabine and Oxaliplatin
GIGAVFFOX	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	Palliative Treatment of Metastatic or Locally Advanced Gastric, Gastroesophageal Junction, or Esophageal Adenocarcinoma using Oxaliplatin, Fluorouracil and Leucovorin
SAAVI3	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	3-Day Ifosfamide for Use in Patients with Advanced Soft Tissue Sarcoma
SCIMMUNE	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Management of Immune-Mediated Adverse Reactions to Checkpoint Inhibitors Immunotherapy

REVISED PROTOCOLS, PPOs AND PATIENT HANDOUTS (AFFECTED DOCUMENTS ARE CHECKED)					
CODE	Protocol	PPO	Patient Handout	Changes	Protocol Title
BRAVEVEX	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<i>Typo corrected</i>	Therapy for Advanced Breast Cancer using Everolimus and Exemestane
UBRAVPALAI	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<i>Typo corrected</i>	Therapy of Advanced Breast Cancer using Palbociclib and Aromatase Inhibitor with or without LHRH Agonist
GIAVCETIR	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<i>Eligibility, Precautions, Premedications, Dose Modifications and Side Effects management updated</i>	Third-Line Treatment of Metastatic Colorectal Cancer using Cetuximab in Combination with Irinotecan
GIAVPANI	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<i>Eligibility, Precautions and Side Effects management updated</i>	Palliative Third-Line Treatment of Metastatic Colorectal Cancer using Panitumumab
UGIFFIRPAN	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<i>Eligibility updated</i>	Palliative Combination Chemotherapy for Metastatic Colorectal Cancer using Irinotecan, Fluorouracil, Leucovorin and Panitumumab
UGIFFOXPAN	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<i>Eligibility and Precautions updated</i>	Palliative Combination Chemotherapy for Metastatic Colorectal Cancer using Oxaliplatin, Fluorouracil, Leucovorin and Panitumumab
GIGFLODOC	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<i>Typo corrected</i>	Perioperative Treatment of Resectable Adenocarcinoma of the Stomach, Gastroesophageal Junction or Lower 1/3 Esophagus using Docetaxel, Oxaliplatin, Infusional Fluorouracil and Leucovorin
GOOVAI	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<i>Precautions updated</i>	Therapy for Advanced Ovarian Cancer using an Aromatase Inhibitor
ULYBENDR	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<i>Eligibility and Institution name updated</i>	Treatment of Non-Hodgkin Lymphoma with Bendamustine and Rituximab
ULYCLLBEND	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<i>Eligibility and Institution name updated</i>	Treatment of Relapsed Chronic Lymphocytic Leukemia (CLL) with Bendamustine
MYBORREL	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<i>Typo corrected</i>	Treatment of Relapsed Multiple Myeloma using Bortezomib, Dexamethasone with or without Cyclophosphamide
SMAJIFN	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<i>Institution name, Contact Physician, Interferon Product updated</i>	Adjuvant Therapy of High-Risk Malignant Melanoma with High Dose Interferon (HDIFN) Alpha-2b

WEBSITE RESOURCES AND CONTACT INFORMATION

CONTACT INFORMATION	PHONE	FAX	EMAIL
Systemic Therapy Update Editor	604-877-6000 x 673028		bulletin@bccancer.bc.ca
Provincial Systemic Therapy Program	604-877-6000 x 672247		mclin@bccancer.bc.ca
To update contact information of any CON sites, please contact:			bulletin@bccancer.bc.ca
Oncology Drug Information	604-877-6275		druginfo@bccancer.bc.ca
Nurse Educators	604-877-6000 x 672638		nursinged@bccancer.bc.ca
Library/Cancer Information	604-675-8003 Toll Free 888-675-8001 x 8003		requests@bccancer.bc.ca
Pharmacy Professional Practice	604-877-6000 x 672247		mclin@bccancer.bc.ca
Provincial Professional Practice Nursing			BCCancerPPNAdmin@ehcnet.phsa.ca
OSCAR	888-355-0355	604-708-2051	oscar@bccancer.bc.ca
Compassionate Access Program (CAP)	604-877-6277	604-708-2026	cap_bcca@bccancer.bc.ca
Pharmacy Oncology Certification	250-712-3900 x 686820		rxchemocert@bccancer.bc.ca
BC Cancer-Abbotsford	604-851-4710 Toll Free 877-547-3777		
BC Cancer-Prince George (Centre for the North)	250-645-7300 Toll Free 888-775-7300		
BC Cancer-Surrey	604-930-2098 Toll Free 800-523-2885		
BC Cancer-Kelowna	250-712-3900 Toll Free 888-563-7773		
BC Cancer-Vancouver	604-877-6000 Toll Free 800-663-3333		
BC Cancer-Victoria	250-519-5500 Toll Free 800-670-3322		

EDITORIAL REVIEW BOARD

Sally Waignein, PharmD (Editor)
 Mario de Lemos, PharmD, MSc(Oncol)
 Mark Goodwin, MLIS

Ava Hatcher, RN, MN, CON(c)
 Caroline Lohrisch, MD
 Naren Bollipalli, BSc(Pharm)