

# **Systemic Therapy Update**

Volume 25 Issue 12 December 2022

# For Health Professionals Who Care for People with Cancer

#### **Inside This Issue**

#### **Editor's Choice: New Programs**

**UBRAVTTCAP:** Trastuzumab, Tucatinib and Capecitabine for Metastatic HER-Positive Breast Cancer

**UGIAVPANEN:** Panitumumab and Encorafenib for Metastatic Colorectal Cancer with *BRAF* Mutation

**SMAVEB:** Encorafenib and Binimetinib for Unresectable or Metastatic Melanoma with *BRAF* Mutation

**SCCRS:** Management of Cytokine Release Syndrome

#### **Medication Safety**

World Patient Safety Day: Focus on Transitions of Care

#### Cancer Drug Manual<sup>©</sup>

**New** Ripretinib | **Revised** Binimetinib, Blinatumomab, Bortezomib, Encorafenib, Gemcitabine, Octreotide, Tucatinib

BC Cancer Benefit Drug List

New UBRAVTTCAP, UGIAVPANEN, SMAVEB

New Protocols, PPPOs and Patient Handouts

**BR** UBRAVTTCAP | **GI** UGIAVPANEN | **SM** SMAVEB | **SC** SCCRS **Revised Protocols, PPPOs and Patient Handouts** 

**BR** BRAVKAD, BRAVLCAP, BRAVPTRAD, BRAVPTRAT, BRAVPTRVIN, BRAVTCAP, BRAVTRVIN | **CN** CNOCTLAR | **GI** GIAJRALOX, GIAVCAP, GIAVCAPB, GIAVCETIR, GIAVPANI, GIAVRALIR, GIAVRALOX, GICAPIRI, GICAPOX, GICIRB, GICOXB, GIFFIRB, GIFFIRPAN, GIFFOXB, GIFFOXPAN, GIFOLFIRI, GIFOLFOX, GINFOCLAR, GINPRRT, GIOCTLAR, GIRALT, GISORAF | **GO** GOENDCAT | **LU** LUAVBRI, LUAVCER, LUSCDURPE | **LY** LYFCR, LYGEMOXPEG, LYVENOB | **SM** SMAVDAB, SMAVDT, SMAVFIPI, SMAVIPI, SMAVTRA, SMAVVC, SMAVVEM

#### **Resources and Contact Information**

### Editor's Choice

#### **New Programs**

BC Cancer Provincial Systemic Therapy has approved the following new treatment programs effective 01 December 2022. Full details of all treatment programs are available in the <u>Chemotherapy Protocols</u> section of the BC Cancer website.

#### Breast

**UBRAVTTCAP: Trastuzumab, Tucatinib and Capecitabine and for Metastatic HER2-Positive Breast Cancer** — The BC Cancer Breast Tumour Group is introducing a combination regimen of trastuzumab, tucatinib and capecitabine for patients with metastatic HER2-positive breast cancer after failure of pertuzumab and trastuzumab emtansine. Addition of tucatinib to capecitabine and trastuzumab was shown to increase progression free survival (7.8 vs. 5.6 mos, hazard ratio 0.54), overall survival (21.9 vs. 17.4 mos, hazard ratio 0.66) and response rate (40.6% vs. 22.8%).[1] <u>Tucatinib</u> is an oral HER2 tyrosine kinase inhibitor. BC Cancer Compassionate Access Program (CAP) approval is required.

#### Gastrointestinal

**UGIAVPANEN:** Panitumumab and Encorafenib for Metastatic Colorectal Cancer with *BRAF* Mutation— The BC Cancer Gastrointestinal Tumour Group is introducing a new therapy option for patients with

### Editor's Choice

#### **New Programs**

metastatic colorectal cancer with *BRAF* V600E mutation after failure of standard first-line therapy. Compared to anti-EGFR therapy plus chemotherapy, a combination of anti-EGFR therapy with encorafenib was shown to increase progression free survival (4.2 vs. 1.5 mos, hazard ratio 0.40), overall survival (8.4 vs. 5.4 mos, hazard ratio 0.60) and response rate (20% vs. 2%).[2] <u>Encorafenib</u> is an oral BRAF tyrosine kinase inhibitor. BC Cancer Compassionate Access Program (CAP) approval is required.

#### **Skin and Melanoma**

**SMAVEB:** Encorafenib and Binimetinib for Unresectable or Metastatic Melanoma with *BRAF* Mutation— The BC Cancer Skin and Myeloma Tumour Group is introducing another BRAF/MEK targeted therapy option for patients with unresectable or metastatic melanoma with *BRAF* V600E mutation. Patients are eligible for only one line of BRAF/MEK targeted therapy. Compared to vemurafenib as a single agent BRAF inhibitor, a combination of encorafenib and binimetinib was shown to increase progression free survival (14.9 vs. 7.3 mos, hazard ratio 0.54) and response rate (63% vs. 40%).[3] <u>Encorafenib</u> is an oral BRAF tyrosine kinase inhibitor and <u>binimetinib</u> is an oral MEK tyrosine kinase inhibitor.

#### **Supportive Care**

#### SCCRS: Management of Cytokine Release Syndrome

BC Cancer is introducing a new supportive care protocol for the management of cytokine release syndrome (CRS) associated with T-cell mediated therapies such as bispecific T-cell engagers [e.g., tebentafusp, blinatumomab). CRS is a potentially severe and life-threatening acute systemic inflammatory syndrome characterized by fever and multiple organ dysfunction.[4,5] Note that the agents used in the supportive care protocol (e.g., tocilizumab) are not covered by BC Cancer Benefit List. In addition, the Leukemia/BMT Program of BC manages the treatment of CRS associated with chimeric antigen receptor (CAR) T-cell therapy.

#### References

- 1 Murthy RK, Loi S, Okines A, et al. Tucatinib, trastuzumab, and capecitabine for HER2-positive metastatic breast cancer. N Engl J Med 2020;382(7):597-609.
- 2 Kopetz S, Grothey A, Yaeger R, et al. Encorafenib, binimetinib, and cetuximab in BRAF V600E-mutated colorectal cancer. N Engl J Med 2019;381(17):1632-1643.
- 3 Dummer R, Ascierto PA, Gogas HJ, et al. Encorafenib plus binimetinib versus vemurafenib or encorafenib in patients with BRAFmutant melanoma (COLUMBUS): a multicentre, open-label, randomised phase 3 trial. Lancet Oncol. 2018;19(5):603-615.
- 4 Lee DW, Gardner R, Porter DL, et al. Current concepts in the diagnosis and management of cytokine release syndrome. Blood 2014;124:188-95.
- 5 Lee DW, Santomasso BD, Locke FL, et al. ASTCT consensus grading for cytokine release syndrome and neurologic toxicity associated with immune effector cells. Biol Blood Marrow Transplant 2019;25(4):625-38.

### **Medication Safety**

#### World Patient Safety Day: Focus on Transitions of Care

To recognize **Medication Safety** as the *theme* for the World Health Organization's 2022 World Patient Safety Day, a series of articles highlighting medication safety priorities were recently circulated in the <u>Systemic Therapy Update</u> newsletter. The October and November issues featured articles focusing on highrisk situations and polypharmacy. This December issue highlights the third medication safety priority area: transitions of care.

Transitions of care occur when patients move between different care environments, such as between home and hospital, between ambulatory and inpatient settings, or between acute and critical care. A transition can also occur during care transfer between providers, such as between family practice and a specialist provider, or when a patients transfers to homecare or palliative care. In these transition points, medication changes often occur due to the type of care needs in each environment. In addition, patients may start, stop or change non-prescription/complementary medications with or without direct guidance from a health professional. Consequently, without an accurate picture of a patient's most current medications, the risks for medication errors increase.

In the oncology setting, additional transitional points can occur within complex treatment protocols. Examples include:

- In dual modality treatments, there is a transition between systemic and radiation treatments
- Treatment protocols may include the delivery of different drug combinations on different days (e.g., Day 1 vs Day 8)
- Treatment protocols may involve switching from a combination of intravenous and oral treatments in one cycle to oral treatment alone in the following cycle

Complex processes and treatment protocol requirements often result in the implementation of multiple strategies to ensure safe delivery of care. Strategies include:

- Performing medication reconciliation
- Leveraging technology (e.g., flagging dual modality patients in computer systems)
- Incorporating independent double checking in appropriate steps of treatment review
- Engaging patients and educating them on their treatments, giving them the tools needed to feel supported

#### **Medication Safety Pearl:**

Medication reconciliation is an Accreditation Canada Required Organizational Practices (ROP) requirement. It is conducted in partnership with patients and families to ensure that documentation reflects the current use of all medications. Medication reconciliation is utilized to communicate accurate and complete information about patients' medications across care transitions at BC Cancer.

#### See the BC Cancer Medication Reconciliation Policy on <u>SHOP</u> for details.

#### Reference

World Health Organization. Medication Safety in Transitions of Care. Geneva; 2019. https://www.who.int/publications/i/item/WHO-UHC-SDS-2019.9

## Cancer Drug Manual<sup>©</sup>

All documents are available in the <u>Cancer Drug Manual</u><sup>©</sup> on the BC Cancer website.

#### **New Documents**

Note that the following drug is not a BC Cancer Benefit Drug and requires application to the BC Cancer Compassionate Access Program (CAP). The corresponding Interim Monograph and Patient Handout is available for reference only.

The **Ripretinib Interim Monograph** and **Patient Handout** have been developed with expert review provided by Dr. Alannah Smrke (Medical Oncologist, BC Cancer Gastrointestinal Tumour Group) and Megan Darbyshire (Tumour Group Pharmacist, Provincial Pharmacy). Ripretinib is a tyrosine kinase inhibitor used in the treatment of gastrointestinal stromal tumour (GIST). The usual dose is 150 mg orally once daily.

Highlights from these documents include:

- ripretinib is associated with cardiac dysfunction and hypertension; monitor ejection fraction and blood pressure throughout treatment
- patients should avoid/minimize exposure to strong sunlight, sunlamps and other sources of UV radiation during treatment, as ripretinib is potentially phototoxic
- squamous cell carcinoma and melanoma are associated with ripretinib treatment; screen for suspicious lesions throughout treatment

**Ripretinib** has been added to the **Auxiliary Label List**, and has been evaluated for the **BC Health Authorities Provincial Hazardous Drug List**.

#### **Revised Documents**

#### **Binimetinib Monograph**

Dosage Guidelines: bolded and italicized BC Cancer standard dosing; added new protocol SMAVEB

#### **Blinatumomab Monograph**

*Dosage Guidelines:* added new fixed-dose regimen and citation for protocol ULKMRDBLIN; revised pediatric dosing (expert review by Dr. Jennifer Kendrick, Clinical Pharmacy Specialist, BC Children's Hospital)

#### Bortezomib Monograph and Chemotherapy Preparation and Stability Chart

Uses: added amyloidosis

Supply and Storage: updated with new contract brands (Marcan, PMS, and Taro) Chemotherapy Preparation and Stability Chart: added extended stability information for Marcan brand

#### **Encorafenib Monograph**

*Dosage Guidelines:* bolded and italicized BC Cancer standard dosing; added new protocols UGIAVPANEN, SMAVEB

#### **Gemcitabine Patient Handout**

*Side Effects table (flu-like illness):* updated acetaminophen recommendation to include maximum dosing and current template statement for interpretation of fever

### Cancer Drug Manual<sup>©</sup>

Throughout: updated all sections to current template wording

#### Octreotide Monograph and Chemotherapy Preparation and Stability Chart

Supply and Storage: added Teva brand

*Throughout:* removed brand-specific information for long acting preparations to reflect availability of generic formulations

*Chemotherapy Preparation and Stability Chart:* updated nomenclature to include "long acting" in name to differentiate from regular release formulations

#### **Tucatinib Monograph**

Dosage Guidelines: bolded and italicized BC Cancer standard dosing; added new protocol UBRAVTTCAP

# BC Cancer Benefit Drug List

#### **New Programs**

The following treatment programs have been added to the <u>Benefit Drug List</u> effective 01 December 2022:

Protocol Title	Protocol Code	Benefit Status
Palliative Therapy for Metastatic Breast Cancer using <b>Trastuzumab</b> , <b>Tucatinib</b> and <b>Capecitabine</b>	UBRAVTTCAP	Restricted
Treatment of BRAF V600E-Mutated Metastatic Colorectal Cancer using Panitumumab and Encorafenib	UGIAVPANEN	Restricted
Treatment of BRAF V600 Mutation-Positive Unresectable or Metastatic Melanoma using <b>Encorafenib</b> and <b>Binimetinib</b>	SMAVEB	Class I

# Highlights of New & Revised Protocols, PPPOs 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, with document revisions indicated in the respective columns. Protocol codes for treatment requiring BC Cancer Compassionate Access Program (CAP) approval are prefixed with the letter **U**.

NEW Prot	NEW Protocols, PPPOs and Patient Handouts (new documents checked 🗹)			
Protocol Code	Protocol Title	Protocol	РРРО	Handout
UBRAVTTCAP	Palliative Therapy for Metastatic Breast Cancer using Trastuzumab, Tucatinib and Capecitabine	$\checkmark$	V	V
UGIAVPANEN	Treatment of BRAF V600E-Mutated Metastatic Colorectal Cancer using Panitumumab and Encorafenib	V	V	V
SCCRS Cytokine Release Syndrome Management		V	V	
SMAVEB	Treatment of BRAF V600 Mutation-Positive Unresectable or Metastatic Melanoma using Encorafenib and Binimetinib	V	$\checkmark$	Ø

<b>REVISED Protocols, PPPOs and Patient Handouts</b> (revisions in respective columns)				
Protocol Code	Protocol Title	Protocol	РРРО	Handout
BR   Breast				
BRAVKAD	Palliative Therapy for Metastatic Breast Cancer using Trastuzumab Emtansine (KADCYLA)	eligibility and exclusions updated		
BRAVLCAP	Therapy for Metastatic Breast Cancer using Capecitabine and Lapatinib	eligibility updated		
BRAVPTRAD	Palliative Therapy for Metastatic Breast Cancer using PERTuzumab, Trastuzumab, and DOCEtaxel as First- Line Treatment for Advanced Breast Cancer	eligibility updated		
BRAVPTRAT	Palliative Therapy for Metastatic Breast Cancer using PERTuzumab, Trastuzumab, and PACLitaxel as First- Line Treatment for Advanced Breast Cancer	eligibility updated	-	
BRAVPTRVIN	Palliative Therapy for Metastatic Breast Cancer using PERTuzumab, Trastuzumab, and Vinorelbine as First- Line Treatment for Advanced Breast Cancer	eligibility updated		
BRAVTCAP	Palliative Therapy for Metastatic Breast Cancer using Trastuzumab and Capecitabine	eligibility updated		
BRAVTRVIN	Palliative Therapy for Metastatic Breast Cancer using Trastuzumab and Vinorelbine	deleted	deleted	deleted

<b>REVISED Protocols, PPPOs and Patient Handouts</b> (revisions in respective columns)				
Protocol Code	Protocol Title	Protocol	РРРО	Handout
CN   Neuro-Or	icology			
CNOCTLAR	Treatment of Growth Hormone Secreting Pituitary Adenoma using Octreotide Long Acting	title revised, brand name removed	brand name removed	
GI   Gastrointe	estinal			
GIAJRALOX	Summary for Palliative Therapy of Metastatic Colorectal Cancer using Oxaliplatin and Raltitrexed in Patients Intolerant to Fluorouracil or Capecitabine		RTC updated	
GIAVCAP	Palliative Therapy of Advanced Colorectal Cancer using Capecitabine	eligibility revised		
GIAVCAPB	Palliative Therapy of Metastatic Colorectal Cancer using Capecitabine and Bevacizumab	eligibility and exclusions revised		
GIAVCETIR	Third Line Treatment of Metastatic Colorectal Cancer Using Cetuximab in Combination with Irinotecan	eligibility and exclusions revised		
GIAVPANI	Palliative Third Line Treatment of Metastatic Colorectal Cancer Using PANitumumab	eligibility, exclusions and dose modification revised	dose modification revised	
GIAVRALIR	Palliative Therapy of Metastatic Colorectal Cancer using Irinotecan and Raltitrexed in Patients Intolerant to Fluorouracil or Capecitabine		RTC updated	
GIAVRALOX	Palliative Therapy of Metastatic Colorectal Cancer using Oxaliplatin and Raltitrexed in Patients Intolerant to Fluorouracil or Capecitabine		RTC updated	
GICAPIRI	Palliative Combination Chemotherapy for Metastatic Colorectal Cancer using Irinotecan and Capecitabine in Patients Unsuitable for GIFOLFIRI	eligibility updated		
GICAPOX	Palliative Combination Chemotherapy for Metastatic Colorectal Cancer using Oxaliplatin, and Capecitabine	eligibility updated		
GICIRB	Palliative Combination Chemotherapy for Metastatic Colorectal Cancer using Irinotecan, Bevacizumab and Capecitabine	eligibility updated		
GICOXB	Palliative Combination Chemotherapy for Metastatic Colorectal Cancer using Oxaliplatin, Bevacizumab and Capecitabine	eligibility updated		
GIFFIRB	Palliative Combination Chemotherapy for Metastatic Colorectal Cancer Using Irinotecan, Fluorouracil, Leucovorin, and Bevacizumab	eligibility updated		
GIFFIRPAN	Palliative Combination Chemotherapy for Metastatic Colorectal Cancer Using Irinotecan, Fluorouracil, Leucovorin, and PANitumumab	eligibility, exclusions and dose modification revised		

Protocol Code	Protocol Title	Protocol	РРРО	Handout
GIFFOXB	Palliative Combination Chemotherapy for Metastatic Colorectal Cancer Using Oxaliplatin, Fluorouracil, Leucovorin, and Bevacizumab	eligibility updated		
GIFFOXPAN	Palliative Combination Chemotherapy for Metastatic Colorectal Cancer Using Oxaliplatin, Fluorouracil, Leucovorin, and PANitumumab	eligibility, dose modification revised		
GIFOLFIRI	Palliative Combination Chemotherapy for Metastatic Colorectal Cancer Using Irinotecan, Fluorouracil and Leucovorin	eligibility updated		
GIFOLFOX	Palliative Combination Chemotherapy for Metastatic Colorectal Cancer Using Oxaliplatin, Fluorouracil, and Leucovorin	eligibility updated		
GINFOCLAR	Management of Non-Functional Neuroendocrine Tumours of the GI Tract using Octreotide Long Acting	title revised, brand name removed	brand name removed	title clarified brand name removed
GINPRRT	Out-of-Province Peptide Receptor Radionuclide Therapy for Advanced Neuroendocrine Tumors	institution name updated, sandostatin brand name removed		
GIOCTLAR	Symptomatic Management of Functional Carcinoid and Neuroendocrine Tumors of the GI Tract using Octreotide Long Acting	title revised, brand name removed	brand name removed	brand name removed
GIRALT	Palliative Chemotherapy for Metastatic Colorectal Cancer using Raltitrexed in Patients with Previous Fluorouracil Toxicity		RTC updated	
GISORAF	Therapy for Advanced Hepatocellular Carcinoma using SORAfenib	tests revised	tests revised	
GI   Gynecolog	ic Oncology			
GOENDCAT	Treatment of Primary Advanced or Recurrent Endometrial Cancer using CARBOplatin and PACLitaxel	tests clarified	tests clarified	
LU   Lung				
LUAVBRI	First-Line Treatment of ALKPositive Advanced Non- Small Cell Lung Cancer (NSCLC) with Brigatinib	tests revised	tests revised	
LUAVCER	Treatment of ALK-Positive Advanced Non-Small Cell Lung Cancer (NSCLC) with Ceritinib	tests revised	tests revised	
USCDURPE	Treatment of Extensive Stage Small Cell Lung Cancer (SCLC) with Durvalumab, Platinum and Etoposide	eligibility and exclusions revised		

<b>REVISED Protocols, PPPOs and Patient Handouts</b> (revisions in respective columns)				ns)
Protocol Code	Protocol Title	Protocol	РРРО	Handout
LYFCR	Treatment of Chronic Lymphocytic Leukemia (CLL) or Prolymphocytic Leukemia with Fludarabine, Cyclophosphamide and riTUXimab	dose modification clarified		
LYGEMOXPEG	Treatment of Newly Diagnosed or Relapsed/Refractory Natural Killer or T-Cell Lymphoma using Gemcitabine, Oxaliplatin and Pegaspargase	tests revised	tests revised	
LYVENOB	Treatment of Previously Untreated Chronic Lymphocytic Leukemia or Small Lymphocytic Lymphoma using Venetoclax and oBINutuzumab			tests clarified
SM   Skin and	Melanoma			
SMAVDAB	Treatment of BRAF V600 Mutation-Positive Unresectable or Metastatic Melanoma Using daBRAFenib		baseline tests removed	
SMAVDT	Treatment of BRAF V600 Mutation-Positive Unresectable or Metastatic Melanoma Using daBRAFenib and Trametinib		baseline tests removed	
SMAVFIPI	First-Line Treatment of Unresectable or Metastatic Melanoma Using Ipilimumab		tests clarified	
SMAVIPI	Treatment of Unresectable or Metastatic Melanoma Using Ipilimumab		tests clarified	
SMAVTRA	Treatment of BRAF V600 Mutation-Positive Unresectable or Metastatic Melanoma Using Trametinib		baseline tests removed	
SMAVVC	Treatment of BRAF V600 Mutation-Positive Unresectable or Metastatic Melanoma using vemURAFenib and Cobimetinib		baseline tests removed	
SMAVVEM	Treatment of BRAF V600 Mutation-Positive Unresectable or Metastatic Melanoma Using vemURAFenib		baseline tests removed	

Resource	Phone	Email / Toll Free / Fax		
Systemic Therapy Update: www.bccancer.bc.ca/health-professionals/clinical-resources/systemic-therapy/systemic-therapy-update				
CST Bulletin: <u>http://www.bccancer.bc.ca/ł</u>	nealth-professionals/clinical-r	esources/systemic-therapy/cst-bulletin		
Systemic Therapy Update Editor	604-877-6000 x 672649	bulletin@bccancer.bc.ca		
Oncology Drug Information	604-877-6275	druginfo@bccancer.bc.ca		
Cancer Drug Manual Editor	250-519-5500 x 693742	nbadry@bccancer.bc.ca		
Pharmacy Oncology Certification	250-712-3900 x 686820	rxchemocert@bccancer.bc.ca		
Nurse Educators	604-877-6000 x 672638	nursinged@bccancer.bc.ca		
CAP – Compassionate Access Program	604-877-6277	cap_bcca@bccancer.bc.ca fax 604-708-2026		
OSCAR – Online System for Cancer Drugs Adjudication and Reimbursement	888-355-0355	oscar@bccancer.bc.ca fax 604-708-2051		
Manufacturer Patient Assistance Program	s: <u>http://www.bccancer.bc.</u>	ca/mpap		
Library/Cancer Information	604-675-8003	requests@bccancer.bc.ca toll free 888-675-8001 x 800		
Library Document Delivery	604-675-8002	requests@bccancer.bc.ca		
Pharmacy Professional Practice	604-877-6000 x 672247	mlin@bccancer.bc.ca		
Professional Practice, Nursing	604-877-6000 x 672623	BCCancerPPNAdmin@ehcnet.phsa.ca		
Provincial Systemic Therapy	604-877-6000 x 672247	mlin@bccancer.bc.ca		
BC Cancer – Abbotsford	604-851-4710	toll free 877-547-3777		
BC Cancer – Kelowna	250-712-3900	toll free 888-563-7773		
BC Cancer – Prince George	250-645-7300	toll free 855-775-7300		
BC Cancer – Surrey	604-930-2098	toll free 800-523-2885		
BC Cancer – Vancouver	604-877-6000	toll free 800-663-3333		
BC Cancer – Victoria	250-519-5500	toll free 800-670-3322		

# **Resources and Contact Information**

Community Oncology Network (CON) sites: To update your contact information, please contact: bulletin@bccancer.bc.ca

# Editorial Review Board

Anne Dar Santos, BScPharm, PharmD (Editor) Fatima Ladha, BScPharm, PharmD (Assistant Editor) Mario de Lemos, PharmD, MSc(Oncol) Jeevan Dosanjh, RN, BScN Alina Gerrie, MD, MPH, FRCPC Samuel Hackett, RN, BScN, CON(C) Alison Pow, BScPharm