

pCODR EXPERT REVIEW COMMITTEE (pERC) FINAL RECOMMENDATION

The pan-Canadian Oncology Drug Review (pCODR) was established by Canada’s provincial and territorial Ministries of Health (with the exception of Quebec) to assess cancer drug therapies and make recommendations to guide drug-funding decisions. The pCODR process brings consistency and clarity to the cancer drug assessment process by looking at clinical evidence, cost-effectiveness and patient perspectives.

pERC Final Recommendation

Upon consideration of feedback from eligible stakeholders, pERC members considered that criteria for early conversion of an Initial Recommendation to a Final Recommendation were met and reconsideration by pERC was not required.

Drug: Bevacizumab (Avastin)	
Submitted Funding Request: In combination with chemotherapy for the treatment of patients with persistent, recurrent, or metastatic carcinoma of the cervix.	
Submitted By: Hoffmann-La Roche Limited	Manufactured By: Hoffmann-La Roche Limited
NOC Date: N/A	Submission Date: October 27, 2014
Initial Recommendation: March 5, 2015	Final Recommendation: March 23, 2015

pERC RECOMMENDATION

The pCODR Expert Review Committee (pERC) recommends funding bevacizumab (Avastin) for patients with carcinoma of the cervix conditional on cost-effectiveness being improved to an acceptable level. Funding should be in combination with chemotherapy for patients with metastatic (Stage IVB), persistent, or recurrent carcinoma of the cervix of all histologic subtypes (except small cell) and good performance status. Treatment should continue until disease progression, unacceptable toxicity, or complete response. pERC made this recommendation because it was satisfied that compared to current therapy there was a net clinical benefit based on a clinically meaningful improvement in overall survival, stable quality of life measures, and partial alignment with patient values. However, the Committee noted that bevacizumab with chemotherapy could not be considered cost-effective at the confidential price based on the resulting Economic Guidance Panel’s estimates of the range of incremental cost-effectiveness ratios when compared with chemotherapy alone in this population.

POTENTIAL NEXT STEPS FOR STAKEHOLDERS

Pricing Arrangements to Improve Cost-Effectiveness

Given pERC was satisfied that there is a net clinical benefit of bevacizumab and chemotherapy, jurisdictions may want to consider pricing arrangements and/or cost structures that would improve the cost-effectiveness of bevacizumab to an acceptable level.

Considerable risk of fistulas

Due to the high rate of gastrointestinal-vaginal and genitourinary-vaginal fistulas in women receiving bevacizumab plus chemotherapy, and the considerable detrimental impact that fistulas can have on a patient's quality of life, pERC felt it very important that physicians provide a fulsome description of the risk of vaginal fistulas with their patients prior to commencing therapy with bevacizumab.

Time limited need for bevacizumab plus chemotherapy

At the time of implementing a funding recommendation for bevacizumab plus chemotherapy, jurisdictions should consider addressing the short-term, time-limited need for bevacizumab plus chemotherapy for patients who are currently receiving chemotherapy for first line treatment. pERC noted that this time-limited access should be for patients who would otherwise be eligible to receive bevacizumab as per the pERC recommendation.

Retreatment after complete response with bevacizumab

Patients who have achieved a complete response with bevacizumab plus chemotherapy and have been off all systemic therapy for a prolonged period of time, may be reasonably offered bevacizumab plus chemotherapy for retreatment, if appropriate. pERC concluded that although there was no direct evidence to support this, it is common clinical practice to retreat a patient with cancer with a drug that previously helped achieve a complete response. pERC agreed that the time frame since prior treatment should be based on input from provincial tumour groups.

No evidence for bevacizumab use after progression

There is currently no evidence available on the effectiveness of continuing bevacizumab in those patients who progress while receiving bevacizumab in the first-line setting. Therefore, pERC was unable to make an informed recommendation on the continued use of bevacizumab in patients who have disease progression while receiving bevacizumab.

SUMMARY OF pERC DELIBERATIONS

pERC noted that cervical cancer affects an estimated 1,450 new cases in Canada annually. Standard first-line systemic therapy for women diagnosed with metastatic, persistent or recurrent cervical cancer is a combination of platinum and taxane chemotherapy. pERC recognized that all standard chemotherapy doublets used to treat metastatic, persistent or recurrent cervical cancer have similar moderate survival rates of about 1 year and differ mainly in their side effect profiles and modes of administration. The intent of treating women with metastatic (Stage IV), persistent, or recurrent cervical cancer is to prolong life and to reduce symptoms, but without the expectation of curing the disease. pERC agreed that there is a need for additional treatment options that extend survival or improve quality of life for patients with this disease.

[pERC's Deliberative Framework](#) for drug funding recommendations focuses on four main criteria:

CLINICAL BENEFIT	PATIENT-BASED VALUES
ECONOMIC EVALUATION	ADOPTION FEASIBILITY

pERC deliberated upon one randomized controlled trial, GOG-240, and considered that this study demonstrated both a statistically significant and clinically meaningful improvement in overall survival for patients treated with bevacizumab plus chemotherapy compared to chemotherapy alone. pERC noted that carboplatin is more commonly used in Canada than cisplatin, a practice which is consistent with the results of a Japanese study that found equal efficacy and lowered toxicity with carboplatin (Kitagawa et al, 2012). Therefore, pERC agreed with the CGP's conclusion that the results of the GOG-240 study are generalizable to the Canadian context. pERC also accepted the CGP's conclusion that a platinum plus paclitaxel combination is favoured over a topotecan plus paclitaxel combination, except in those patients with a contraindication (i.e. allergy) to platinum. Topotecan is less convenient for patients than platinum agents since it requires more treatment days, increased chair time and it costs more than carboplatin.

pERC discussed the significant adverse events reported in the GOG-240 trial. pERC was primarily concerned with the estimated 8.2% and 1.8% rates of gastrointestinal-vaginal and genitourinary-vaginal fistulas in women receiving bevacizumab. pERC noted the considerable detrimental impact that fistulas can have on a patient's quality of life, and stressed the importance of ensuring that women considering treatment with bevacizumab fully understand the potential risks and benefits of the drug. pERC felt strongly that physicians should have a detailed discussion about the risks and benefits of bevacizumab with their patients prior to commencing therapy with bevacizumab. Hypertension and thromboembolism were also frequently reported adverse events in the patients receiving bevacizumab in GOG-240, however, pERC considered that these adverse events were expected and manageable.

pERC observed that there was no statistically significant or clinically meaningful difference in quality of life measures between the bevacizumab plus chemotherapy arm versus the chemotherapy arm alone. pERC noted the lack of a difference in quality of life outcomes in spite of the higher rates of adverse events with bevacizumab plus chemotherapy compared to chemotherapy alone. Therefore, pERC concluded that there is a net clinical benefit of bevacizumab plus chemotherapy for the treatment of patients with metastatic (Stage IVB), persistent, or recurrent carcinoma of the cervix because of the clinically meaningful improvement in overall survival and an absence of a significant decline in quality of life despite the increased toxicity profile for bevacizumab plus chemotherapy.

pERC discussed whether the use of bevacizumab plus chemotherapy could be expanded beyond the GOG-240 study inclusion criteria. In particular, pERC discussed whether patients with Stage IVA disease should be considered for treatment with bevacizumab plus chemotherapy. pERC concluded that there may be rare circumstances where patients with Stage IVA disease whose treatment is either not amenable to surgery or where concurrent chemo-radiation was not considered clinically appropriate may be considered appropriate for bevacizumab plus chemotherapy. The potential for cumulative and compounding adverse events from radiation, chemotherapy, and bevacizumab in this patient population prevented pERC from further considering treatment with bevacizumab in patients with Stage IVA disease. pERC also noted that patients with thromboembolism, uncontrolled hypertension or active bleeding, as per the exclusion criteria in the GOG-240 trial, would not be considered eligible for bevacizumab plus chemotherapy.

pERC considered the input from one patient advocacy group that indicated patients valued additional treatment options and expected that a new treatment could provide moderate to excellent improvement in their disease. The experiences of eight patients with direct experience with bevacizumab showed that half of these patients felt that the drug had improved their quality of life. pERC also noted that although the input suggested that patients were willing to tolerate many of the side effects of treatment, the majority of women were not willing to risk perforations of the GI tract or fistulas between hollow viscera. pERC found this notable considering the high rate of fistulas that occurred in patients treated with bevacizumab plus chemotherapy in the GOG-240 trial. Although treatment with bevacizumab plus chemotherapy would provide patients with an additional treatment option with a net clinically meaningful survival benefit, pERC concluded that the combination of bevacizumab plus chemotherapy only partially aligned with patient values due to the risks of fistulas and a lack of demonstrated improvement in quality of life.

pERC noted that the incremental cost-effectiveness estimates provided by the pCODR Economic Guidance Panel (EGP) were higher than the manufacturer's estimates. pERC agreed with the EGP's reanalysis that involved revisions to four main assumptions used in the manufacturer's model. First, the manufacturer's overall survival extrapolations likely overestimated the survival benefit associated with bevacizumab. pERC noted that in the manufacturer's estimates, nearly half of the clinical benefit was a result of post-progression survival, a carry-over effect, which was not considered reasonable from a clinical perspective. Secondly, pERC agreed with the EGP's decision, with input from the CGP, to decrease the time horizon to 10 years. However, pERC considered that an even shorter time horizon might have been more appropriate, given the poor survival outcomes for women with this disease. Finally, pERC also considered that the EGP's decisions to increase the mean body weight and decrease the utility values used in the model were reasonable. pERC concluded that bevacizumab plus chemotherapy for the treatment of patients with metastatic, persistent, or recurrent carcinoma of the cervix was not cost-effective at the submitted confidential price, relative to chemotherapy alone, based on the EGP's estimated range of incremental cost-effectiveness ratios.

pERC discussed the feasibility of implementing a funding recommendation for bevacizumab plus chemotherapy in women with cervical cancer. pERC discussed whether jurisdictions should consider addressing the short-term, time-limited need for bevacizumab plus chemotherapy for patients who are currently receiving chemotherapy for first line treatment. pERC noted that this time-limited access should be for patients who would otherwise meet the eligibility criteria of the GOG-240 study. pERC also agreed that patients who have achieved a complete response with bevacizumab plus chemotherapy and who are off of systemic therapy for a protracted period of time, may reasonably be offered bevacizumab plus chemotherapy during retreatment, if clinically appropriate. pERC acknowledged that although there was no direct, supportive evidence, it is common clinical practice to retreat a cancer patient with a drug that previously helped achieve a complete response. However, pERC noted that there is also no evidence to address the continued use of bevacizumab in patients who have progressive disease on bevacizumab plus chemotherapy for persistent, recurrent, or metastatic carcinoma of the cervix. Finally, pERC acknowledged that there is no evidence of a differential effective of bevacizumab plus chemotherapy based on histologic subtype, and that all eligible patients, regardless of histology (e.g. adenocarcinoma, squamous cell carcinoma and adenosquamous carcinoma), should receive treatment with bevacizumab plus chemotherapy. pERC noted that the only exception to this would be patients with small cell carcinoma of the cervix, who were specifically excluded from the GOG-240 trial.

EVIDENCE IN BRIEF

pERC deliberated upon:

- a pCODR systematic review
- other literature in the Clinical Guidance Report providing clinical context
- an evaluation of the manufacturer's economic model and budget impact analysis
- guidance from pCODR clinical and economic review panels
- input from one patient advocacy groups (Ovarian Cancer Canada)
- input from pCODR's Provincial Advisory Group.

Feedback on the pERC Initial Recommendation was also provided by:

- input from pCODR's Provincial Advisory Group.
- one patient advocacy group (Ovarian Cancer Canada)
- the Submitter (Hoffmann-La Roche Limited)

The pERC initial recommendation was to fund bevacizumab (Avastin) for patients with carcinoma of the cervix conditional on cost-effectiveness being improved to an acceptable level. Feedback on the pERC Initial Recommendation indicated that the manufacturer, patient advocacy group and pCODR's Provincial Advisory Group agreed with the initial recommendation.

The pERC Chair and pERC members reviewed the feedback and it was determined that the pERC Initial recommendation was eligible for early conversion to a pERC Final Recommendation without reconsideration by pERC because there was unanimous consensus from stakeholders on the recommended clinical population outlined in the pERC Initial Recommendation.

OVERALL CLINICAL BENEFIT

pCODR review scope

The purpose of the review was to evaluate the safety and efficacy of bevacizumab with combination chemotherapy as compared to combination chemotherapy alone in the treatment of women with metastatic (Stage IVB), persistent, or recurrent cervical cancer.

Studies included: High quality randomized trial of bevacizumab plus chemotherapy

The pCODR systematic review included one open-label, multicenter, randomized controlled trial, GOG-240 (Tewari, 2014), that enrolled patients with primary metastatic (Stage IVB), persistent, or recurrent carcinoma of the cervix, which was not amenable to curative treatment with surgery and/or radiation therapy. Patients were randomized equally to one of four treatment arms: cisplatin plus paclitaxel (n=114); topotecan plus paclitaxel (n=111); bevacizumab (15mg/kg) plus cisplatin plus paclitaxel (n=115), or; bevacizumab (15mg/kg) plus topotecan plus paclitaxel (n=112).

Patient population: Metastatic (Stage IVB), persistent, or recurrent, cervical cancer with good performance status

Patient characteristics were balanced between arms. Most patients (72%) had recurrent disease, 11% had persistent disease, and 17% had advanced metastatic disease. Patients were required to have GOG performance status 0 to 1, which is similar to ECOG performance status 0 to 1. Among patients enrolled in the trial, 58% and 42% of patients had a GOG performance status of 0 or 1 respectively in each arm of the study. Patients with thromboembolism, active bleeding, or uncontrolled hypertension were excluded from this trial.

Key efficacy results: Clinically meaningful improvements in median overall survival

The primary outcome of the GOG-240 study was overall survival. The addition of bevacizumab significantly improved the median overall survival compared with combination chemotherapy alone (17.0 months versus [vs.] 13.3 months; hazard ratio for death [HR] 0.71, 98% confidence interval [CI] 0.54 to 0.95, one-sided p=0.004), after a median follow-up of 20.8 months and 271 deaths. The planned final analysis for overall survival continued to demonstrate a significant improvement in favour of bevacizumab (median 16.8 months vs. 13.3 months; HR 0.765, 95% CI 0.62 to 0.95; p=0.0068), after a total of 348 deaths (77% of study).

population). pERC agreed that the gain in median overall survival demonstrated in the GOG-240 trial is a clinically meaningful benefit for this population.

Quality of life: No differences in QOL measures

pERC noted that there were no statistically significant or clinically meaningful differences in quality of life as assessed by any of the three validated health related quality of life instruments reported in the GOG-240 study. pERC questioned whether the quality of life measures could detect the impact of increased toxicity in patients receiving bevacizumab or whether patients with more severe toxicities such as fistulas failed to complete the QoL questionnaires. Alternatively, pERC also noted that it is possible that the increased toxicities were appropriately managed and, therefore, did not have a measurable impact on patients' quality of life.

Safety: Increased risk of fistulas, hypertension, and thromboembolism

A higher rate of gastrointestinal-vaginal fistulas occurred in patients in the GOG-240 study who received bevacizumab plus combination chemotherapy than in patients who received combination chemotherapy alone (8.2% vs. 0.9%, respectively). Genitourinary-vaginal fistulas occurred in a similar proportion of patients who received bevacizumab plus chemotherapy than in patients who received combination chemotherapy alone (1.8% vs. 1.4%, respectively). pERC considered a gastrointestinal or vesicovaginal fistula to be a very serious complication for women as it usually requires hospitalization and surgery (colostomy or conduit) or invasive procedures (percutaneous nephrostomy tubes) to manage, and would significantly impact a patient's quality of life.

In addition, the GOG-240 study demonstrated that Grade 2 or higher hypertension occurred in a significantly greater proportion of patients who received bevacizumab (25% of 220 patients) compared with those who did not (2% of 219 patients; $p < 0.001$); however, these events were manageable with the use of antihypertensives. The proportion of patients with Grade 3 or higher thromboembolisms was also significantly higher amongst those who received bevacizumab plus chemotherapy compared with those who did not (8% vs. 1%; $p = 0.001$).

Comparator information: Carboplatin more commonly used in Canada

In the GOG-240 study, the comparator, combination chemotherapy, was either cisplatin plus paclitaxel or topotecan plus paclitaxel. pERC noted that carboplatin is more commonly used in Canada than cisplatin, a practice which is consistent with the results of a Japanese study (Kitagawa et al, 2012) that found equal efficacy and lowered toxicity with carboplatin. pERC also noted that, although there were no statistically significant differences in outcomes between the cisplatin plus paclitaxel and topotecan plus paclitaxel arms in the study, a platinum agent plus paclitaxel is preferred over topotecan plus paclitaxel, unless a platinum agent is contraindicated, such as in the case of an allergy to carboplatin. pERC agreed with the CGP's conclusion that treatment with topotecan is less convenient for patients than platinum agents since it requires more treatment days, increased chair time, and there is increased drug cost with topotecan.

Need: New treatment options are required

pERC noted that women with metastatic (Stage IVB), persistent, or recurrent cervical cancer do not have curable disease. The treatment goal for these patients is to extend their duration of survival and to maintain or improve their quality of life. The only options for disease control at this advanced stage are combination chemotherapy, which provides a survival benefit of approximately one year, or participation in a clinical trial. pERC noted that combination chemotherapy provides moderate effectiveness and that new treatment options are needed for this disease.

PATIENT-BASED VALUES

Values of patients with metastatic, recurrent, or persistent cervical cancer: More treatment options needed that prolong survival

Input from one patient advocacy group indicated that patients with metastatic, persistent, or recurrent cervical cancer value extended life expectancy, shrinkage of tumour size, and improvement in quality of life. pERC noted that the majority of the patients providing input would not be willing to tolerate perforations of the GI tract as an adverse event due to treatment. pERC considered this very relevant due to the higher rate of fistulas observed in the women receiving bevacizumab in the GOG-240 study compared to women not receiving bevacizumab. The majority of the patients providing input indicated that they would

be willing to accept fatigue, decreased appetite and body weight for moderate to excellent improvements in control of their cervical cancer.

Patient values on treatment: Uncertainty in improvement in quality of life

pERC acknowledged that a small subset of patients who provided input had experience with bevacizumab (n=8). Nonetheless, pERC placed considerable value on this input. They noted that half of the women who used bevacizumab agreed or strongly agreed that it had improved their quality of life compared to their previous treatments. In addition, half of the women reported that bevacizumab had shrunk their tumour, managed their fatigue, prevented a recurrence, and improved their prognosis. Three of the eight women (38%) reported that bevacizumab had caused additional side effects. All eight respondents experienced high blood pressure. Three women noted that their side effects (fatigue or high blood pressure) were acceptable whereas two noted that their side effects (fatigue or increased pain and renal impairment) were unacceptable.

ECONOMIC EVALUATION

Economic model submitted: Cost effectiveness analysis and cost utility analysis

The pCODR Economic Guidance Panel assessed a cost-utility and cost-effectiveness analysis that compared bevacizumab plus chemotherapy to chemotherapy alone for patients with persistent, recurrent, or metastatic (Stage IV) carcinoma of the cervix. This comparison was based on the results of the GOG-240 study.

Basis of the economic model: Clinical and economic inputs

Costs considered in the analysis included those associated with the drug, supportive care costs, disease management costs, adverse events costs, and terminal care.

The key clinical outcomes considered in the analysis were overall survival, progression-free survival, adverse events, treatment duration, and utilities.

Drug costs: Treatment duration and mean body weight as key cost drivers

At the disclosable price, bevacizumab costs \$600.00 per 100mg vial and \$2,400.00 per 400mg vial. At the recommended dose of 15 mg/kg on day 1 every 21 days, bevacizumab cost \$300.00 per day and \$8,400.00 per 28-day course. At the submitted confidential price bevacizumab costs \$[REDACTED] per 100mg vial and \$[REDACTED] per 400mg vial. *((The cost of bevacizumab is based on a confidential price submitted by the manufacturer and cannot be disclosed to the public according to the pCODR Disclosure of Information Guidelines.))* Of note, the factors that most influence the costs were treatment duration and mean body weight.

Cisplatin costs \$0.16 per 1 mg/mL. At the recommended dose of 50 mg/m², cisplatin costs \$0.65 per day and \$18.13 per 28-day course.

Paclitaxel costs 0.3320/mg². At the recommended dose of 135 or 175 mg/m² on day 1, paclitaxel costs between \$3.63 and \$4.70 per day, and between \$101.59 and \$131.69 per 28-day course.

Topotecan costs \$141.00/mg. At the recommended dose of 0.75 mg/m² on days 1 to 3, topotecan costs \$25.68 per day and \$719.10 per 28-day course.

Clinical effect estimates: Key drivers were extrapolation of OS, time horizon and utilities

The Economic Guidance Panel's best estimate of the extra clinical effect of bevacizumab plus chemotherapy was between 0.192 and 0.278 quality adjusted life-years (QALYs) and between 0.280 and 0.375 life-years (LYs). The factors found to most influence the cost-effectiveness of bevacizumab plus chemotherapy in the submitted model were the extrapolation of overall survival, the time horizon, and the utility values.

pERC noted that the manufacturer's main cost estimate assumed a mean difference in overall survival that was much higher than the median difference in overall survival observed in the GOG-240 study. pERC agreed with the EGP that this estimate is uncertain because a high proportion (almost half) of the mean overall survival benefit was derived through extrapolation of the survival curves. While pERC had accepted

that there is a net overall clinical benefit of bevacizumab based on the results of the GOG-240 study, it considered the true magnitude of this benefit from the available data to be uncertain.

Cost-effectiveness estimates: Higher than reported by manufacturer

pERC noted that the estimates of incremental cost-effectiveness provided by the pCODR Economic Guidance Panel (EGP) were higher than the manufacturer's estimates. The Economic Guidance Panel's best estimate of the cost-effectiveness ranged from \$157,829/QALY gained (based on reducing the time horizon to 10 years) to \$245,452/QALY gained (based on simultaneously varying the following: overall survival curves converging at 120 months, time horizon of 10 years, reduction of utility values by 10%, and increase of mean body weight by 10%). pERC agreed with the EGP in their revisions of the four main assumptions using the manufacturer's model. First, the manufacturer's overall survival extrapolations likely overestimated the survival benefit associated with bevacizumab. pERC noted that in the manufacturer's estimates, just under half of the clinical benefit was a result of post-progression survival, a carry-over effect which was not considered reasonable from a clinical perspective. Secondly, pERC agreed with the EGP's decision, with input from the CGP, to decrease the time horizon to 10 years; however, pERC considered that an even shorter time horizon might have been more appropriate, given the poor survival outcomes for women with this disease. Finally, pERC also considered that the EGP's decisions to increase the mean body weight and decrease the utility values used in the model were also reasonable. pERC concluded that bevacizumab plus chemotherapy for the treatment of patients with metastatic, persistent, or recurrent carcinoma of the cervix was not cost-effective, based on the EGP's estimated range of incremental cost-effectiveness ratios.

ADOPTION FEASIBILITY

Considerations for implementation and budget impact: High cost, small number of patients

pERC noted that the potential budget impact of funding bevacizumab for this setting would increase with a longer duration of therapy, higher number of eligible patients, and higher mean body weight. The budget impact could also be influenced by drug wastage and the potential use outside of the recommended population.

There were two additional scenarios where pERC felt that bevacizumab plus chemotherapy should be offered in addition to the criteria used by the GOG-240 study. First, there will be a short-term, time-limited need for bevacizumab plus chemotherapy for patients who are currently receiving chemotherapy for first line treatment and who have not progressed. pERC agreed there should be time limited access for patients who would otherwise meet the eligibility criteria of the GOG-240 study. The second scenario considered was for patients who have achieved a complete response with bevacizumab plus chemotherapy and are off systemic therapy for a protracted period of time. pERC thought that these patients should be offered bevacizumab plus chemotherapy for retreatment if clinically appropriate.

pERC noted that there is no evidence to inform the use of bevacizumab plus chemotherapy in patients who have progressive disease while receiving treatment for persistent, recurrent, or metastatic carcinoma of the cervix (e.g. treatment beyond progression). Finally, pERC acknowledged that there is no evidence of a differential effect of bevacizumab plus chemotherapy based on histologic subtype, and that all eligible patients, regardless of histology (e.g. adenocarcinoma, squamous cell carcinoma and adenosquamous carcinoma), should receive treatment with bevacizumab plus chemotherapy. pERC noted that the only exception to this would be patients with small cell carcinoma of the cervix.

pERC discussed the potential for wastage with bevacizumab and concluded that this was not likely a concern due to the different vial sizes available, the possibility for extended stability to 48 hours once reconstituted and the ability to share partially used vials given that there are patients with other forms of cancer are treated with bevacizumab.

DRUG AND CONDITION INFORMATION

Drug Information

- monoclonal antibody that targets VEGF receptors
- 100mg and 400mg vials (25 mg/mL)
- Recommended dosage of 15 mg/kg of body weight administered intravenously, every three weeks

Cancer Treated

- Recurrent, Persistent or Metastatic Cervical Cancer

Burden of Illness

- 1450 Canadian women will develop cervical cancer, making it 13th leading cancer in Canadian women
- women with metastatic (Stage IVB), persistent, or recurrent disease are not curable and the goal of treatment is to extend duration of survival and maintain or improve quality of life

Current Standard Treatment

- combination of a platinum and taxane chemotherapy (i.e. cisplatin/carboplatin + paclitaxel)
- cisplatin is often replaced with carboplatin due to the latter's better toxicity profile

Limitations of Current Therapy

- patients with advanced stage / persistent, recurrent disease and those with extra pelvic recurrences have an expected poor overall survival with the current standard single agent platinum or combination platinum based chemotherapy treatments

ABOUT THIS RECOMMENDATION

The pCODR Expert Review Committee (pERC)

Recommendations are made by the pCODR Expert Review Committee following the pERC Deliberative Framework. pERC members and their roles are as follows:

Dr. Anthony Fields, Oncologist (Chair)
 Dr. Maureen Trudeau, Oncologist (Vice-Chair)
 Dr. Scott Berry, Oncologist
 Bryson Brown, Patient Member
 Dr. Matthew Cheung, Oncologist
 Mario de Lemos, Pharmacist
 Dr. Sunil Desai, Oncologist
 Mike Doyle, Economist

Dr. Bill Evans, Oncologist
 Dr. Allan Grill, Family Physician
 Dr. Paul Hoskins, Oncologist
 Danica Wasney, Pharmacist
 Carole McMahon, Patient Member Alternate
 Jo Nanson, Patient Member
 Dr. Tallal Younis, Oncologist
 Dr. Kelvin Chan

Dr. Maureen Trudeau chaired the meeting in her capacity as Vice-Chair of pERC. All members participated in deliberations and voting on the initial recommendation except:

- Drs Paul Hoskins, Tallal Younis, and Kelvin Chan who were not present for the meeting
- Dr. Bill Evans who was excluded from voting due to a conflict of interest
- Carole McMahon who did not vote due to her role as a patient member alternate

Because the pERC Initial Recommendation met the criteria for early conversion to a pERC Final Recommendation, reconsideration by pERC was not required and deliberations and voting on the pERC Final Recommendation did not occur.

Avoidance of conflicts of interest

All members of the pCODR Expert Review Committee must comply with the *pCODR Conflict of Interest Guidelines*; individual conflict of interest statements for each member are posted on the pCODR website and pERC members have an obligation to disclose conflicts on an ongoing basis. For the review of bevacizumab (Avastin) for Cervical Cancer, through their declarations, seven members had a real, potential or perceived conflict and based on application of the *pCODR Conflict of Interest Guidelines*, three of these members was excluded from voting.

Information sources used

The pCODR Expert Review Committee is provided with a *pCODR Clinical Guidance Report* and a *pCODR Economic Guidance Report*, which include a summary of patient advocacy group and Provincial Advisory Group input, as well as original patient advocacy group input submissions to inform their deliberations. pCODR guidance reports are developed following the pCODR review process and are posted on the pCODR website. Please refer to the pCODR guidance reports for more detail on their content.

Consulting publicly disclosed information

pCODR considers it essential that pERC recommendations be based on information that may be publicly disclosed. All information provided to the pCODR Expert Review Committee for its deliberations was handled in accordance with the *pCODR Disclosure of Information Guidelines*. Hoffmann-La Roche Limited, as the primary data owner, did not agree to the disclosure of economic information, therefore, this information has been redacted in this recommendation and publicly available guidance reports.

Use of this recommendation

This recommendation from the pCODR Expert Review Committee (pERC) is not intended as a substitute for professional advice, but rather to help Canadian health systems leaders and policymakers make well-informed decisions and improve the quality of health care services. While patients and others may use this Recommendation, it is for informational and educational purposes only, and should not be used as a substitute for the application of clinical judgment respecting the care of a particular patient, for professional judgment in any decision-making process, or for professional medical advice.

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