Media Release

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Roche's Avastin (bevacizumab) plus chemotherapy receives FDA approval for platinum-sensitive recurrent ovarian cancer

Approval based on two large Phase III studies including GOG-0213 that showed a five month overall survival difference for women with platinum-sensitive recurrent ovarian cancer on Avastin plus chemotherapy compared to chemotherapy alone

In the United States, Avastin is now approved for nine distinct uses across six different types of cancer

Roche (SIX: RO, ROG; OTCQX: RHHBY) today announced that the U.S. Food and Drug Administration (FDA) has approved Avastin® (bevacizumab), either in combination with carboplatin and paclitaxel or in combination with carboplatin and gemcitabine chemotherapy, followed by Avastin alone, for the treatment of patients with platinum-sensitive recurrent epithelial ovarian, fallopian tube, or primary peritoneal cancer. Women are said to have a 'platinum-sensitive' form of the disease if a relapse occurs six months or longer following the last treatment with a platinum-based chemotherapy.

"With today's approval of Avastin plus chemotherapy, women in the U.S. with recurrent, platinum-sensitive ovarian cancer now have a treatment option that showed a survival difference of more than five months compared to chemotherapy alone in a clinical trial," said Sandra Horning, MD, Chief Medical Officer and Head of Global Product Development. "This approval was based in part on a Gynecologic Oncology Group cooperative clinical trial and reinforces the importance of partnerships with study groups to identify new treatment options for people in need."

Avastin in combination with chemotherapy for platinum-sensitive recurrent epithelial ovarian, fallopian tube, or primary peritoneal cancer was granted priority review, and today's approval is based on results from two randomised, controlled Phase III studies, GOG-0213 and OCEANS. The GOG-213 study demonstrated that adding Avastin to chemotherapy showed an overall survival difference of five months compared to chemotherapy alone (median OS: 42.6 months vs. 37.3 months; Hazard Ratio (HR)=0.84, 95% CI: 0.69-1.01 and HR=0.82, 95% CI: 0.68-0.996, depending on stratification factor*). Both the GOG-0213 and OCEANS studies demonstrated a significant improvement in the time women lived without their disease getting worse

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(progression-free survival, PFS). The GOG-0213 study showed that women lived a median of 3.4 months longer without disease progression with the addition of Avastin to chemotherapy compared to chemotherapy alone (median PFS: 13.8 months vs. 10.4 months; HR=0.61, 95% CI: 0.51-0.72). The OCEANS study showed that Avastin in combination with chemotherapy significantly improved PFS compared to placebo plus chemotherapy (median PFS: 12.4 months vs. 8.4 months; HR=0.46, 95% CI: 0.37-0.58; p<0.0001). Overall survival, one of the secondary endpoints in the OCEANS study, was not significantly improved with the addition of Avastin to chemotherapy (HR=0.95, 95% CI: 0.77-1.17). Adverse events in both studies were consistent with other Phase III studies of Avastin.

(*refer to details under GOG-0213 data table)

In November 2014, Avastin was approved in the United States for the treatment of women with platinum-resistant recurrent epithelial ovarian, fallopian tube, or primary peritoneal cancer in combination with paclitaxel, pegylated liposomal doxorubicin or topotecan chemotherapy. Women are considered to have a 'platinum-resistant' form of the disease if a relapse occurs less than six months after the last treatment with a platinum-based chemotherapy.

About the GOG-0213 and OCEANS studies

GOG-0213 is an independent Phase III study sponsored by the National Cancer Institute (NCI) and conducted by the Gynecologic Oncology Group (GOG) that enrolled 673 women with platinum-sensitive recurrent epithelial ovarian, fallopian tube, or primary peritoneal cancer. The primary endpoint of the study was to assess whether the addition of Avastin to chemotherapy (carboplatin and paclitaxel) followed by continued use of Avastin alone increased overall survival (OS) compared to chemotherapy alone. Progression-free survival (PFS) and objective response rate (ORR) were secondary endpoints in the GOG-0213 study.

GOG-0213 Study Results		
Treatment Arm	Avastin + chemotherapy (n=337)	Chemotherapy alone (n=336)
Primary Endpoint: Overall Survival (OS)		
Median OS	42.6 months	37.3 months
Hazard Ratio (95% CI) (IVRS)[1]	0.84 (0.69, 1.01)	
Hazard Ratio (95% CI) (eCRF)[2]	0.82 (0.68-0.996)	
Secondary Endpoint: Progression-Free Survival (PFS)		
Median PFS	13.8 months	10.4 months
Hazard Ratio (95% CI)	0.61 (0.51, 0.72)	
Secondary Endpoint: Objective Response Rate (ORR)		
ORR %	78%	56%
Number of patients with measurable disease at baseline	274	286
Safety Profile		
Grade 3 or 4 adverse events occurring at a higher incidence (≥ 2%) in 325 patients treated with Avastin plus chemotherapy compared to 332 patients treated with chemotherapy alone were hypertension (11.1% vs. 0.6%), fatigue (7.7% vs. 2.7%), febrile neutropenia (6.2% vs. 2.7%), proteinuria (8.0% vs. 0.0%), abdominal pain (5.8% vs. 0.9%), hyponatraemia (3.7% vs. 0.9%), headache (3.1% vs. 0.9%), and pain in extremity (3.4% vs. 0.0%). No Grade ≥ 3 adverse events occurred with a ≥ 2% higher frequency in the chemotherapy alone arm compared to the Avastin plus chemotherapy arm. There were no Grade 5 adverse events occurring at a higher incidence (≥ 2%) in the Avastin plus chemotherapy arm compared to the chemotherapy alone arm.		

[1]Hazard ratio was estimated from Cox proportional hazards models stratified by the duration of treatment free-interval prior to enrolling onto this study per IVRS (interactive voice response system) and secondary surgical debulking status.
[2]Hazard ratio was estimated from Cox proportional hazards models stratified by the duration of platinum free-interval prior to enrolling onto this study per eCRF (electronic case report form) and secondary surgical debulking status.

OCEANS, a company sponsored trial, is a placebo-controlled, randomised, multicentre Phase III study that evaluated the safety and efficacy of Avastin, administered in combination with chemotherapy (carboplatin and gemcitabine), in 484 women with platinum-sensitive recurrent epithelial ovarian, fallopian tube, or primary peritoneal cancer. The primary endpoint of the study was PFS, as determined by the investigator using Response Evaluation Criteria for Solid Tumors (RECIST). Secondary endpoints included ORR, OS and safety.

AVF4095g (OCEANS) Study Results		
Treatment Arm	Avastin + chemotherapy (n=242)	Placebo + chemotherapy (n=242)
Primary Endpoint: Progression-Free Survival (PFS)		
Median PFS	12.4 months	8.4 months
Hazard Ratio (95% CI) p-value	0.46 (0.37, 0.58) <0.0001	
Secondary Endpoint: Objective Response Rate (ORR)		
ORR %	78%	57%
p-value	<0.0001	
Safety Profile		
Grade 3 or 4 adverse events occurring at a higher incidence (≥ 2%) in 247 patients treated with Avastin plus chemotherapy compared to 233 patients treated with placebo plus chemotherapy were thrombocytopenia (40.1% vs. 33.9%), nausea (4.5% vs. 1.3%), fatigue (6.5% vs. 4.3%), headache (3.6% vs. 0.9%), proteinuria (9.7% vs. 0.4%), dyspnea (4.5% vs. 1.7%), epistaxis (4.9% vs. 0.4%), and hypertension (17.0% vs. 0.9%). Grade ≥ 3 anaemia (16.2% vs. 18.9%) and decreased white blood cell count (1.6% vs. 4.3%) occurred with a ≥ 2% higher frequency in the chemotherapy alone arm compared to the Avastin plus chemotherapy arm. There were no Grade 5 adverse reactions occurring at a higher incidence (≥ 2%) for the Avastin plus chemotherapy arm compared to the placebo plus chemotherapy arm.		

About ovarian cancer

Ovarian cancer causes more deaths than any other gynaecologic cancer in the United States. In 2016, about 22,200 women will be diagnosed with ovarian cancer in the United States and about 14,200 will die from the disease. Patients are said to have 'platinum-sensitive' disease if a relapse occurs six months or longer following the last cycle of platinum-based chemotherapy. About half of those who relapse after initial treatment – over 8,000 women – will have platinum-sensitive ovarian cancer.

About Avastin

With the initial approval in the United States for advanced colorectal cancer in 2004, Avastin became the first anti-angiogenic therapy made widely available for the treatment of patients with an advanced cancer.

Today, Avastin is continuing to transform cancer care through its proven survival benefit (overall survival and/or progression free survival) across several types of cancer. Avastin is approved in Europe for the treatment of advanced stages of breast cancer, colorectal cancer, non-small cell lung cancer, kidney cancer,

ovarian cancer and cervical cancer, and is available in the United States for the treatment of colorectal cancer, non-small cell lung cancer, kidney cancer, cervical cancer and recurrent, platinum-resistant and platinum-sensitive ovarian cancer. In addition, Avastin is approved over 70 other countries worldwide for the treatment of patients with progressive glioblastoma following prior therapy. Avastin is approved in Japan for the treatment of the advanced stages of colorectal cancer, non-small cell lung cancer, breast cancer, ovarian cancer and malignant glioma, including newly diagnosed glioblastoma.

Avastin has made anti-angiogenic therapy a fundamental pillar of cancer treatment today. Over two million patients have been treated with Avastin so far. A comprehensive clinical programme with more than 300 ongoing clinical trials is investigating the use of Avastin in over 50 tumour types.

About Roche
Roche is a global pioneer in pharmaceuticals and diagnostics focused on advancing science to improve people's lives.

Roche is the world's largest biotech company, with truly differentiated medicines in oncology, immunology, infectious diseases, ophthalmology and diseases of the central nervous system. Roche is also the world leader in in vitro diagnostics and tissue-based cancer diagnostics, and a frontrunner in diabetes management. The combined strengths of pharmaceuticals and diagnostics under one roof have made Roche the leader in personalised healthcare – a strategy that aims to fit the right treatment to each patient in the best way possible.

Founded in 1896, Roche continues to search for better ways to prevent, diagnose and treat diseases and make a sustainable contribution to society. Twenty-nine medicines developed by Roche are included in the World Health Organization Model Lists of Essential Medicines, among them life-saving antibiotics, antimalarials and cancer medicines. Roche has been recognised as the Group Leader in sustainability within the Pharmaceuticals, Biotechnology & Life Sciences Industry eight years in a row by the Dow Jones Sustainability Indices.

The Roche Group, headquartered in Basel, Switzerland, is active in over 100 countries and in 2015 employed more than 91,700 people worldwide. In 2015, Roche invested CHF 9.3 billion in R&D and posted sales of CHF 48.1 billion. Genentech, in the United States, is a wholly owned member of the Roche Group. Roche is the majority shareholder in Chugai Pharmaceutical, Japan. For more information, please visit

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