INCORPORATION OF BEVACIZUMAB IN THE TREATMENT OF RECURRENT AND METASTATIC CERVICAL CANCER

GOG 240: A PHASE 3 RANDOMIZED TRIAL OF THE GYNECOLOGIC ONCOLOGY GROUP

Disclosures

• Gynecologic Oncology Group
  – Genentech provided bevacizumab to the NCI for this study

• KS Tewari
  – Participated in Genentech/Roche conference calls to discuss the development of bevacizumab in cervical cancer
    • Consultancy fees, honoraria, travel, accommodations – not accepted
  – Advisory/Speaker’s Bureau
    • Vermillion, Ovagene
  – Extramural funding (PI)
    • NIH R21, Intuitive Surgical, Queen of Hearts Foundation
Recurrent and Metastatic Cervical Cancer

- Cisplatin 50 mg/m² plus paclitaxel 135 mg/m² standard therapy
  - Median OS ≤12 mos
- Majority of patients with recurrent cervical cancer treated with cisplatin-based chemoradiation for locally advanced disease (1999+)
  - Concern for acquired drug resistance making platinum-based therapies less effective at recurrence
- GOG 204 (2009)
  - Phase 3 randomized trial of 4 platinum-based chemotherapy doublets
  - Closed for futility
- New therapeutic options needed
  - ? Non-platinum chemotherapy doublets
  - ? Anti-angiogenesis therapy


Angiogenesis In Cervical Cancer

• Accumulating evidence supports the concept that angiogenesis plays a central role in cervical carcinogenesis and disease progression.

GOG 240 Hypothesis: Mechanistics
Tumor Hypoxia and Viral Oncogenes Drive Angiogenesis

- Bevacizumab activity in cervical cancer was demonstrated in a phase 2 single-agent study (GOG 227C)

HPV E6 → p53 degradation → ↑ TSP-1 → ↑ VEGF → angiogenesis

Displacement of HDAC1, HDAC4, HDAC7

HPV E7

pRb inactivation → p21-RB pathway dysregulation

↑ HIF1α

Anti-VEGF therapy

http://www.microbiologybytes.com/virology/Papillomaviruses.html
# GOG 240: Schema

**Carcinoma of the cervix**
- Primary stage IVB
- Recurrent/persistent
- Measureable disease
- GOG PS 0–1
- No prior chemotherapy for recurrence (N=452)

**Stratification factors:**
- Stage IVB vs recurrent/persistent disease
- Performance status
- Prior cisplatin Rx as radiation-sensitizer

**Randomization:**
1:1:1:1

**Treatment Groups:**

- **I:**
  - Paclitaxel 135 or 175 mg/m² IV
  - Cisplatin 50 mg/m² IV

- **II:**
  - Paclitaxel 135 or 175 mg/m² IV
  - Cisplatin 50 mg/m² IV
  - Bevacizumab 15 mg/kg IV

- **III:**
  - Paclitaxel 175 mg/m² IV
  - Topotecan 0.75 mg/m² d1-3

- **IV:**
  - Paclitaxel 175 mg/m² IV
  - Topotecan 0.75 mg/m² d1-3
  - Bevacizumab 15 mg/kg IV

**Adjuvant Regimens:**
- Chemo alone
- Chemo + Bev

**Q21d Rx to PD, toxicity, CR**

Activated: 4/6/09
Closed to accrual: 1/3/12

GOG 240: Objectives

- Primary end points to determine
  - If adding bevacizumab to chemotherapy improves OS
  - If a non-platinum doublet (topotecan + paclitaxel) improves OS
  - The tolerability of the four regimens (adverse events by CTCAE v3 and v4)
- Secondary end points to determine
  - Impact of bevacizumab and non-platinum doublet on progression-free survival (PFS) and overall response rate (ORR) by RECIST v1.0
- Exploratory end points
  - Impact on Health-Related Quality of Life (HRQoL):
    - Functional Assessment of Cancer Therapy – Cervix Ca Trial Outcome Index (FACT-Cx TOI)
  - Data not included in current presentation
    - Additional HRQoL: FACT/GOG-Ntx (neuropathy), BPI (Brief Pain Inventory)
    - Prospective validation of pooled clinical prognostic factors from prior phase 3 trials
    - Prevalence and impact of nicotine dependence on OS and PFS
    - Circulating tumor cells and VEGF isoform expression
GOG 240: Statistical Considerations

- Phase 3 open-label study
  - 2x2 factorial design with two primary independent hypotheses tested
  - The impact of non-platinum doublets compared with a platinum doublet
  - The impact of the addition of anti-angiogenic therapy to chemotherapy

- Assumptions for the primary end point of OS
  - Sample size=450
  - Assumes no evidence of interaction between factors
  - 346 deaths required to detect a reduction in the hazard of death by 30% by the addition of either factor with a power of 90%
  - 5% alpha for each of the two primary hypothesis tests (2.5% ea.)
  - Goal to increase median OS from 12 mos to 16 mos

- Pre-planned interim analysis after 173 events to determine futility or superiority of either experimental factor

- Two sequential two-stage toxicity analyses to monitor for unacceptable toxicity in the experimental arms

GOG 240: Study Timeline, Part 1

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**2006-2008**

- **Trial design:**
  - Cervix Committee (GOG)
  - Protocol Development Comm (GOG)
  - Cervical Cancer Task Force
  - Gynecologic Cancer Steering Comm
  - GEICO
  - Genentech/Roche
  - Central IRB
  - CTEP

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**2009–2011**

- **April 9, 2009**
  - Trial activation

- **January 2, 2012**
  - Target accrual reached (N=452)

- **February 6, 2012**
  - 174 deaths (events), planned interim analysis

- **March 13, 2012**
  - Release of non-superiority of topotecan-paclitaxel backbone by NCI DMC & GOG

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**2012**

Presented by: Krishnansu S. Tewari, MD, FACOG, FACS
GOG 240: Interim Analysis

- Feb 2012 study results released on non-platinum doublet vs platinum-doublet
  - Topotecan + paclitaxel shown to not be superior or inferior to cisplatin + paclitaxel

<table>
<thead>
<tr>
<th></th>
<th>Cis + Pac (n= 229)</th>
<th>Topo + Pac (n= 223)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Events, n (%)</td>
<td>81 (35)</td>
<td>93 (42)</td>
</tr>
<tr>
<td>Median OS, mos</td>
<td>15</td>
<td>12.5</td>
</tr>
</tbody>
</table>

HR=1.20 (98.74% CI; 0.82–1.76)

\( P \) (one-sided)=0.880

GOG 240: Study Timeline, Part 2

**2009–2011**
- **April 9, 2009**
  - Trial activation

**2012**
- **January 2, 2012**
  - Target accrual reached (N=452)
- **February 6, 2012**
  - 174 deaths (events), planned interim analysis
- **March 13, 2012**
  - Release of non-superiority of topotecan-paclitaxel backbone by NCI DMC & GOG
- **December 12, 2012**
  - Database lock and analysis

**2013**
- **January 2013**
  - Bevacizumab-containing regimens declared superior by NCI DMC & GOG
- **February 2013**
  - Dear Patient & Dear Investigator Letters; ASCO abstract submitted
- **March 2013**
  - ASCO makes rare exception to embargo and places abstract in public domain
- **May 2013**
  - NCCN considers listing chemoRx plus bev as Category 1
- **June 2, 2013**
  - ASCO 2013 Press Briefing and General Plenary

Presented by: Krishnansu S. Tewari, MD, FACOG, FACS
## GOG 240: Demographics & Baseline Characteristics

<table>
<thead>
<tr>
<th>Characteristic</th>
<th>Chemo Alone (n=225), %</th>
<th>Chemo + Bev (n=227), %</th>
</tr>
</thead>
<tbody>
<tr>
<td>Median age, years (range)</td>
<td>46 (20–83)</td>
<td>48 (22–85)</td>
</tr>
<tr>
<td>Histology, %</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Squamous</td>
<td>68</td>
<td>70</td>
</tr>
<tr>
<td>AdenoCa, unspec.</td>
<td>20</td>
<td>19</td>
</tr>
<tr>
<td>Race, %</td>
<td></td>
<td></td>
</tr>
<tr>
<td>White</td>
<td>80</td>
<td>75</td>
</tr>
<tr>
<td>African American</td>
<td>11</td>
<td>16</td>
</tr>
<tr>
<td>Asian</td>
<td>3</td>
<td>5</td>
</tr>
<tr>
<td>Pacific Islander</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Stage of disease, %</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Recurrent</td>
<td>73</td>
<td>70</td>
</tr>
<tr>
<td>Persistent</td>
<td>10</td>
<td>12</td>
</tr>
<tr>
<td>Advanced</td>
<td>16</td>
<td>17</td>
</tr>
<tr>
<td>Performance status, %</td>
<td></td>
<td></td>
</tr>
<tr>
<td>0</td>
<td>58</td>
<td>58</td>
</tr>
<tr>
<td>1</td>
<td>42</td>
<td>42</td>
</tr>
<tr>
<td>Prior platinum, %</td>
<td>74</td>
<td>75</td>
</tr>
<tr>
<td>Pelvic disease, %</td>
<td>53</td>
<td>54</td>
</tr>
</tbody>
</table>

Presented by: Krishnansu S. Tewari, MD, FACOG, FACS
GOG 240: OS for Chemo vs Chemo + Bev

<table>
<thead>
<tr>
<th></th>
<th>Chemotherapy (n=225)</th>
<th>Chemotherapy + Bev (n=227)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Events, n (%)</td>
<td>140 (62)</td>
<td>131 (58)</td>
</tr>
<tr>
<td>Median OS, mos</td>
<td>13.3</td>
<td>17.0</td>
</tr>
<tr>
<td>HR</td>
<td>0.71 (97% CI, 0.54-0.94)</td>
<td></td>
</tr>
<tr>
<td>P</td>
<td>0.0035</td>
<td></td>
</tr>
<tr>
<td>Median follow-up</td>
<td>20.8 mos</td>
<td></td>
</tr>
</tbody>
</table>

Presented by: Krishnansu S. Tewari, MD, FACOG, FACS
GOG 240: PFS for Chemo vs Chemo + Bev

Chemotherapy (n=225) | Chemotherapy + Bev (n=227)
---|---
Events, n (%) | 184 (82) | 183 (81)
Median PFS, mos | 5.9 | 8.2
HR=0.67 (95% CI, 0.54-0.82) | 2-sided P=0.0002
RR, % | 36 (CR, n=14) | 48 (CR, n=28) | 2-sided P=0.00807

Presented by: Krishnansu S. Tewari, MD, FACOG, FACS
GOG 240: OS for Cisplatin + Paclitaxel vs Cisplatin + Pac + Bev

<table>
<thead>
<tr>
<th></th>
<th>Cis + Pac (n=114)</th>
<th>Cis + Pac + Bev (n=115)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Events, n (%)</td>
<td>69 (60.5)</td>
<td>67 (58.3)</td>
</tr>
<tr>
<td>Median OS, mos</td>
<td>14.3</td>
<td>17.5</td>
</tr>
<tr>
<td>HR=0.68 (95% CI, 0.48-0.97)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>( P=0.0348 )</td>
<td></td>
<td></td>
</tr>
<tr>
<td>RR, %</td>
<td>45 (CR, n=9)</td>
<td>50 (CR, n=17)</td>
</tr>
</tbody>
</table>

2-sided \( P=0.5090 \)
GOG 240: OS for Topotecan + Paclitaxel vs Topotecan + Paclitaxel + Bev

<table>
<thead>
<tr>
<th></th>
<th>Topo + Pac (n=111)</th>
<th>Topo + Pac + Bev (n=112)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Events, n (%)</td>
<td>74 (65)</td>
<td>66 (59)</td>
</tr>
<tr>
<td>Median OS, mos</td>
<td>12.7</td>
<td>16.2</td>
</tr>
<tr>
<td>HR = 0.74 (95% CI, 0.53-1.05)</td>
<td>P = 0.0896</td>
<td></td>
</tr>
<tr>
<td>RR, %</td>
<td>27 (CR, n=5)</td>
<td>47 (CR, n=11)</td>
</tr>
<tr>
<td>2-sided P = 0.0022</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
# GOG 240: OS and Prognostic Factors

<table>
<thead>
<tr>
<th>Subgroup</th>
<th>No. of Patients</th>
<th>Hazard Ratio</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Age</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Age ≤ 40 years</td>
<td>112</td>
<td></td>
</tr>
<tr>
<td>40 &lt; Age ≤ 48 years</td>
<td>111</td>
<td></td>
</tr>
<tr>
<td>48 &lt; Age ≤ 56 years</td>
<td>108</td>
<td></td>
</tr>
<tr>
<td>56 years &lt; Age</td>
<td>121</td>
<td></td>
</tr>
<tr>
<td><strong>Performance Status</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>0</td>
<td>263</td>
<td></td>
</tr>
<tr>
<td>1</td>
<td>189</td>
<td></td>
</tr>
<tr>
<td><strong>Prior Platinum RT</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>No</td>
<td>115</td>
<td></td>
</tr>
<tr>
<td>Yes</td>
<td>337</td>
<td></td>
</tr>
<tr>
<td><strong>Disease Status</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Advanced</td>
<td>76</td>
<td></td>
</tr>
<tr>
<td>Recurrent/Persistent</td>
<td>376</td>
<td></td>
</tr>
<tr>
<td><strong>Topotecan Treatment</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>No</td>
<td>229</td>
<td></td>
</tr>
<tr>
<td>Yes</td>
<td>223</td>
<td></td>
</tr>
<tr>
<td><strong>Race</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Not Black</td>
<td>392</td>
<td></td>
</tr>
<tr>
<td>Black</td>
<td>60</td>
<td></td>
</tr>
<tr>
<td><strong>Histology</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Adenocarcinoma</td>
<td>86</td>
<td></td>
</tr>
<tr>
<td>Adenosquamous</td>
<td>44</td>
<td></td>
</tr>
<tr>
<td>Other</td>
<td>12</td>
<td></td>
</tr>
<tr>
<td>Squamous</td>
<td>310</td>
<td></td>
</tr>
<tr>
<td><strong>Pelvic Disease</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>No</td>
<td>210</td>
<td></td>
</tr>
<tr>
<td>Yes</td>
<td>242</td>
<td></td>
</tr>
<tr>
<td><strong>Overall</strong></td>
<td>452</td>
<td></td>
</tr>
</tbody>
</table>
## GOG 240: Treatment Exposure and Specific Adverse Events

<table>
<thead>
<tr>
<th>Adverse Event, n (%)</th>
<th>Chemo Alone (n=219)</th>
<th>Chemo + Bev (n=220)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Treatment cycles, median (range)</td>
<td>6 (0-30)</td>
<td>7 (0-36)</td>
</tr>
<tr>
<td>Grade 5 AE(s)</td>
<td>4 (1.8)</td>
<td>4 (1.8)</td>
</tr>
<tr>
<td>GI events, non-fistula (grade ≥2)</td>
<td>96 (44)</td>
<td>114 (52)</td>
</tr>
<tr>
<td><strong>GI fistula (grade ≥3)</strong></td>
<td>0 (0)</td>
<td>7 (3)</td>
</tr>
<tr>
<td><strong>GI perforation (grade ≥3)</strong></td>
<td>0 (0)</td>
<td>5 (2)</td>
</tr>
<tr>
<td><strong>GU fistula (grade ≥3)</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Hypertension (grade ≥2)</td>
<td>4 (2)</td>
<td>54 (25)</td>
</tr>
<tr>
<td>Proteinuria (grade ≥3)</td>
<td>0 (0)</td>
<td>4 (2)</td>
</tr>
<tr>
<td>Pain (grade ≥2)</td>
<td>62 (28)</td>
<td>71 (32)</td>
</tr>
<tr>
<td>Neutropenia (grade ≥4)</td>
<td>57 (26)</td>
<td>78 (35)</td>
</tr>
<tr>
<td>Febrile neutropenia (grade ≥3)</td>
<td>12 (5)</td>
<td>12 (5)</td>
</tr>
<tr>
<td><strong>Thromboembolism (grade ≥3)</strong></td>
<td>3 (1)</td>
<td>18 (8)</td>
</tr>
<tr>
<td>Bleeding CNS (any grade)</td>
<td>0 (0)</td>
<td>0 (0)</td>
</tr>
<tr>
<td>GI (grade ≥3)</td>
<td>1 (0)</td>
<td>4 (1)</td>
</tr>
<tr>
<td>GU (grade ≥3)</td>
<td>1 (0)</td>
<td>6 (3)</td>
</tr>
</tbody>
</table>

*p<0.05

Presented by: Krishnansu S. Tewari, MD, FACOG, FACS
GOG 240: Health Related Quality of Life

- FACT for Cervical Cancer – Trial Outcome Index
  - Physical well-being (7 items)
  - Functional well-being (7 items)
  - Cervix Cancer subscale (15 items)
  - Score range: 0-116 points
  - Clinically meaningful change: 4-5 points
- Compliance with completion of HRQoL questionnaires ranged from 96% pre-cycle 1 to 63% 9 mos post-cycle 1 and was balanced across arms

<table>
<thead>
<tr>
<th>FACT-Cx TOI Score</th>
<th>Chemo Alone</th>
<th>Chemo + Bev</th>
<th>Difference</th>
<th>98.75% CI</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pre-cycle 1</td>
<td>77.9</td>
<td>75.8</td>
<td>-2.17</td>
<td>-6.43–2.09</td>
</tr>
<tr>
<td>Pre-cycle 2</td>
<td>77.4</td>
<td>76.9</td>
<td>-0.47</td>
<td>-3.59–2.64</td>
</tr>
<tr>
<td>Pre-cycle 5</td>
<td>77.6</td>
<td>74.7</td>
<td>-2.95</td>
<td>-6.81–0.90</td>
</tr>
<tr>
<td>6 mos post-cycle 1</td>
<td>74.0</td>
<td>71.2</td>
<td>-2.84</td>
<td>-7.40–1.73</td>
</tr>
<tr>
<td>9 mos post-cycle 1</td>
<td>74.5</td>
<td>72.7</td>
<td>-1.80</td>
<td>-7.10–3.50</td>
</tr>
</tbody>
</table>

GOG 240: Mean FACT-Cx TOI

- Patients receiving bevacizumab reported 1.2 points lower on average.

![Graph showing assessment time and score comparison between chemotherapy alone and chemotherapy + bevacizumab. The graph indicates a slight decrease in score over time, with a 98.75% CI of -4.1 to 1.7 and a P-value of 0.3.]
GOG 240: Conclusions

- Bevacizumab plus chemotherapy significantly improves OS in stage IVB, recurrent or persistent cervical carcinoma
  - Nearly 4-month improvement in OS is clinically significant
  - Increase in median PFS and ORR are also demonstrated
  - Cisplatin + paclitaxel arm is current standard of care and did not underperform
  - Benefit seen even when recurrent disease is in irradiated pelvis
- Bevacizumab treatment is associated with a higher rate of AEs
  - 3–8% rate of known bevacizumab-related AEs
- The improvement in OS with bevacizumab treatment was not accompanied by a decrease in HRQoL
- First targeted agent to improve OS in a gynecologic cancer
GOG 240: Discussion – Moving Forward

• Incorporation of anti-VEGF therapy for primary treatment of locally advanced disease

• Future studies in GOG 240 patient population
  – Dose determination of bevacizumab
  – Cost-effectiveness studies
  – Other classes of anti-angiogenic agents
    • VEGF-dependent (eg, pazopanib, sorafenib)
    • Non-VEGF-dependent (Ang 1/Ang 2 pathway inhibitors)
  – Vascular disrupting agents
  – Combined anti-angiogenesis and E7-based immunotherapy

GOG 240: Study Team and Support

Study Design
– MW Sill (Statistician)
– BJ Monk (GOG Cervix Cancer Committee Chair)
– HJ Long III (Med Onc) (1946-2013)

Co-Authors
– L Ramondetta, L Landrum, T Reid, M Leitao
– A Oaknin (GEICO)
– RT Penson (HRQoL)
– H Michael (Pathology)

Co-Investigators
– MJ Birrer, H Lankes, KM Darcy, RA Burger
  (Translational)
– DH Moore (Prognostic factors)
– S Waggoner (Smoking)

Genentech/Roche
– K Look, A Husain, A Cannon

GOG
– PJ DiSaia (Group Chair)
– MF Brady, F Stehman
– L Reese, A Kuras
– M Colahan, K Neff

CTEP/NCI
– J Zujewski, T Trimble
– J Abrams, M Mooney
– L Rubenstein

UCI
– J Smith (Study Nurse)

Presented by: Krishnansu S. Tewari, MD, FACOG, FACS
GOG 240: Acknowledgements

Abbott-Northwestern Hospital
Abington Memorial Hospital
Alamance Cancer Center
Alta Bates Summit Medical Center-Herrick Campus
Anmed Health Cancer Center
Aultman Health Foundation
Aurora Women’s Pavilion of West Allis
Memorial Baylor All Saints Medical Center
Baystate Medical Center
Billings Clinic
Black Hills OB/GYN
Brooke Army Medical Center
Broward General Medical Center
Bryn Mawr Hospital
Cancer Center of Kansas - Dodge City
Cancer Center of Kansas - Wichita
Cancer Institute of New Jersey
Carilion Clinic Gynecological Oncology
Carolinas Medical Center
Central Georgia Gynecologic Oncology
Christiana Healthcare Services CCOP
City of Hope National Medical Center
Cleveland Clinic Cancer Center/Fairview Hospital
Cleveland Clinic Foundation
Columbus Cancer Council/Ohio State Cooper Hospital/University Medical Center
Dana-Farber Cancer Institute
Dartmouth-Hitchcock Medical Center
Fairview Ridges Hospital
Florida Gynecologic Oncology
Florida Hospital Cancer Institute
Fox Chase Cancer Center at Virtua Memorial Hospital Fundacion Instituto Valenciano de Oncologia
Georgia Regents University
Good Samaritan Hospital
Greater Baltimore Medical Center
Gundersen Lutheran
H. Son Llatzer
Harbin Clinic Medical Oncology and Clinical Research
Hartford Hospital
Hawaii Minority-Based CCOP
Hillcrest Hospital
Hope, A Women’s Cancer Center
Hospital Universitari de Girona Dr.Josep Trueta
Hospital Universitario Gregoria Maranon
Hospital Universitario La Paz
Hospital Vall d’Hebron
Huntsman Cancer Institute/University of Utah
Hurley Medical Center
Indiana University Cancer Center
John H. Stroger Jr. Hospital of Cook County
John Muir Medical Center - Concord Campus
Joliet Oncology-Hematology Associates Ltd.
Kansas City CCOP
Kettering Hospital
Lake/University, Ireland Cancer Center
Lehigh Valley Hospital
Lester E. Cox Medical Center
Long Island Jewish Medical Center
Louisiana State University Health Sciences Center
Lutheran General Cancer Care Center
Lyndon Baines Johnson General Hospital
M.D. Anderson Cancer Center, Orlando
M.D. Anderson Cancer Center
Maine Medical Center
Marshfield CCOP
Mayo Clinic in Florida
Mayo Clinic
Medical College of Wisconsin
Medical University of South Carolina
MedStar Franklin Square Medical Center/Weinberg Cancer Institute
Meharry Medical College Minority Based CCOP
Memorial Health University Medical Center
Memorial Healthcare System Joe DiMaggio Children’s Hospital
Memorial Medical Center of Southern Illinois University
Memorial Sloan-Kettering Cancer Center
Mercy Hospital
Methodist Hospital Houston
Miami Valley Hospital
Michiana Hematology-Oncology, PC-Westville
Minnesota Oncology and Hematology, P.A.
Moffitt Cancer Center and Research Institute
Montefiore Medical Center
Moores Univ. of California San Diego Cancer Ctr.
GOG 240: Acknowledgements, con’t

Nebraska Methodist Hospital
New York University Langone Medical Center
New York University Medical Center
Northern Indiana Cancer Research Consortium
Northwestern Univ./Feinberg School of Medicine
Norton Healthcare Inc/Louisville Oncology
Ochsner Clinic Foundation
Ozark Health Ventures, LLC
Park Nicollet Clinic - St. Louis Park
Penrose St. Francis Healthcare
Poudre Valley Hospital
Providence St. Joseph's Medical Center
Queens Hospital Cancer Center
Rush University Medical Center
Sarasota Memorial HealthCare System
Schwartz Gynecologic Oncology
Scott & White Memorial Hospital CCOP
Sinai Hospital of Baltimore
Southwest Gynecologic Oncology Associates, Inc.
Southwestern Medical Center of Texas
St. Elizabeth Medical Center
St. Joseph Hospital
St. Joseph Mercy – Oakland
St. Joseph's Hospital and Medical Center
St. Louis University Health Science Center
St. Luke's Hospital
St. Vincent Oncology Center

St. Vincent Regional Cancer CCOP
State University of New York at Brooklyn
State University of New York at Stony Brook
State University of New York Upstate
Sudarshan K. Sharma, MD Limited-GYN Oncology
Tennessee Oncology, PLLC
The Hospital of Central Conn. at New Britain General
The Lankenau Hospital
Tulane University School of Medicine
Tulsa Cancer Institute-South Yale
UCSF/Mt. Zion Cancer Center
UMDNJ-New Jersey Medical School Union Hospital
University Medical Center, Brackenridge
University of Alabama at Birmingham
University of Arkansas
University of California Davis Cancer Center
University of California Medical Center at Irvine
University of California, San Francisco-Mt. Zion
University of Chicago
University of Cincinnati Medical Center
University of Colorado-Anschutz Cancer Pavilion
University of Iowa Hospitals and Clinics
University of Kansas Medical Center
University of Kentucky
University of Maryland/Greenbaum Cancer Center

University of Massachusetts Memorial Health Care
University of Minnesota Medical School
University of Mississippi
University of New Mexico Health Sciences Center
University of North Carolina
University of Oklahoma
University of Pittsburgh - Hillman Cancer Center
University of South Alabama, Mitchell Cancer Inst.
University of Southern California
University of Tennessee - Knoxville
University of Texas - Galveston
University of Virginia Health Sciences Center
University of Wisconsin Hospital
Utah Valley Regional Medical Center
Valley Hospital
Vanderbilt University Medical Center
Virginia Commonwealth University MBCCOP
Wake Forest University School of Medicine
Wayne State University
Wellmont Health System
West Michigan Cancer Center
Wichita CCOP
William Beaumont Hospital CCOP
Women and Infants Hospital
Women's Cancer Care Associates
Women's Cancer Center of Nevada

Presented by: Krishnansu S. Tewari, MD, FACOG, FACS