

Meet The Professor

Immunotherapy and Novel Agents in Gynecologic Cancers

Deborah K Armstrong, MD

Professor of Oncology

Professor of Gynecology and Obstetrics

Skip Viragh Outpatient Cancer Building

Johns Hopkins Sidney Kimmel Comprehensive Cancer Center

Baltimore, Maryland

Commercial Support

These activities are supported by educational grants from Eisai Inc, Merck, Seagen Inc and Tesaro, A GSK Company.

Dr Love — Disclosures

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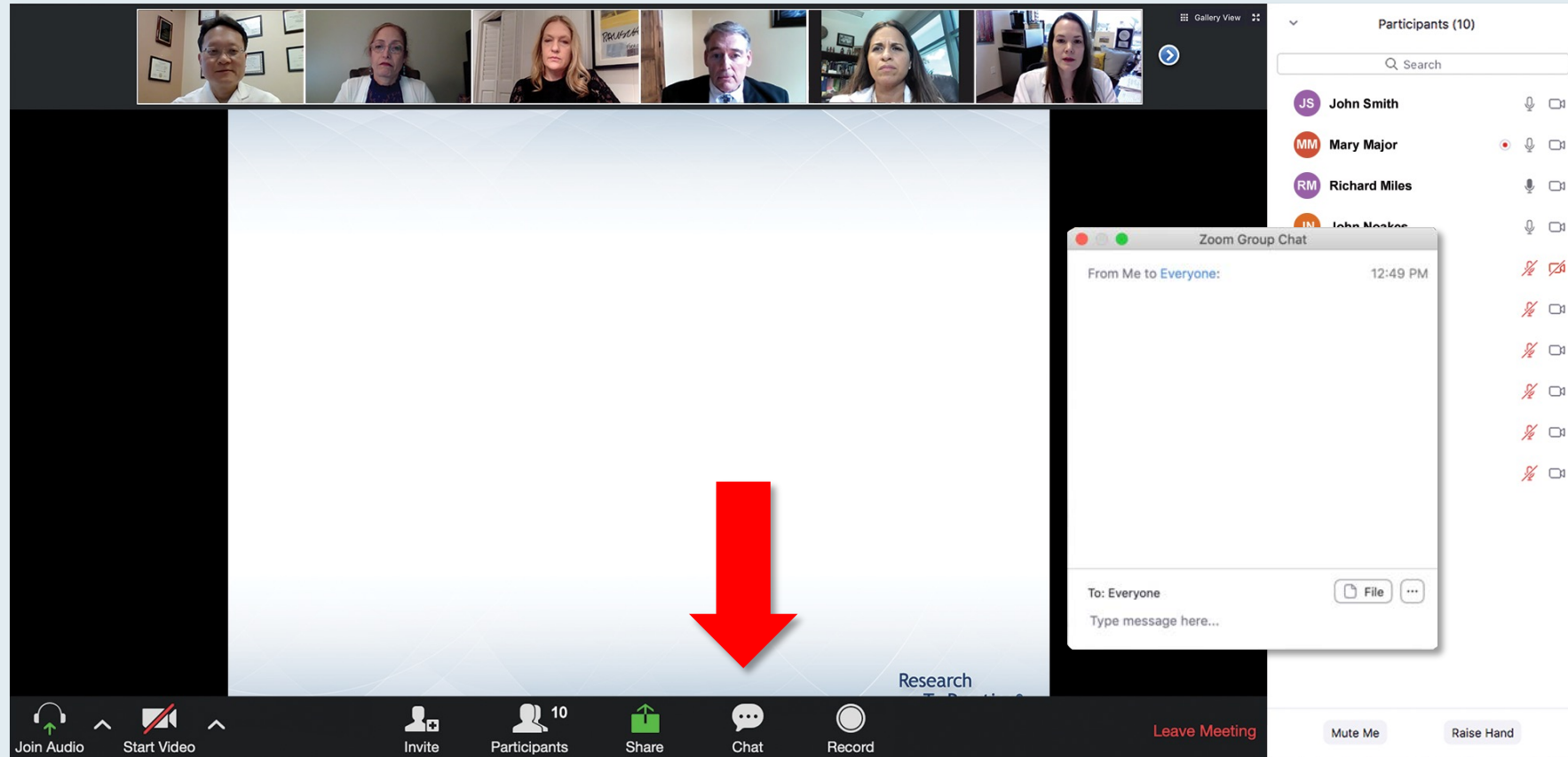
Research To Practice CME Planning Committee Members, Staff and Reviewers

Planners, scientific staff and independent reviewers for Research To Practice have no relevant conflicts of interest to disclose.

Dr Armstrong — Disclosures

Advisory Committee	AbbVie Inc, Cue Biopharma, Eisai Inc
Contracted Research	AstraZeneca Pharmaceuticals LP, Clovis Oncology, Eisai Inc, Pfizer Inc, Syndax Pharmaceuticals Inc
Data and Safety Monitoring Board/Committee	AstraZeneca Pharmaceuticals LP

We Encourage Clinicians in Practice to Submit Questions



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Familiarizing Yourself with the Zoom Interface

How to answer poll questions

The screenshot shows a Zoom meeting interface. At the top, there are six video thumbnails of participants. Below them is a slide with a poll question: "What is your usual treatment recommendation for a patient with MM followed by ASCT and maintenance experiences an asymptomatic relapse?". The slide lists ten options, with the first one highlighted. A "Quick Poll" window is overlaid on the first option, showing a list of radio buttons for each treatment combination. The bottom of the screen shows the Zoom control bar with icons for Join Audio, Start Video, Invite, Participants (10), Share, Chat, Record, and Leave Meeting. On the right side, there is a "Participants (10)" list with names and icons for audio and video status.

Participants (10)

Search

- JS John Smith
- MM Mary Major
- RM Richard Miles
- JN John Noakes
- AS Alice Suarez
- JP Jane Perez
- RS Robert Stiles
- JF Juan Fernandez
- AK Ashok Kumar
- JS Jeremy Smith

What is your usual treatment recommendation for a patient with MM followed by ASCT and maintenance experiences an asymptomatic relapse?

Quick Poll

- Carfilzomib +/- dexamethasone
- Pomalidomide +/- dexamethasone
- Carfilzomib + pomalidomide +/- dexamethasone
- Elotuzumab + lenalidomide +/- dexamethasone
- Elotuzumab + pomalidomide +/- dexamethasone
- Daratumumab + lenalidomide +/- dexamethasone
- Daratumumab + pomalidomide +/- dexamethasone
- Daratumumab + bortezomib +/- dexamethasone
- Ixazomib + Rd
- Other

Submit

Co-provided by USF Health Research To Practice®

Join Audio Start Video Invite Participants 10 Share Chat Record Leave Meeting Mute Me Raise Hand

When a poll question pops up, click your answer choice from the available options.
Results will be shown after everyone has answered.

Familiarizing Yourself with the Zoom Interface

Expand chat submission box

The screenshot shows a Zoom meeting interface. At the top, there are video thumbnails for participants: RTP Coordinat..., Kirsten Miller, RTP Mike Rivera, and Lisa Suarez. Below the thumbnails is a slide titled "Meet The Professor Program Steering Committee" with six members listed:

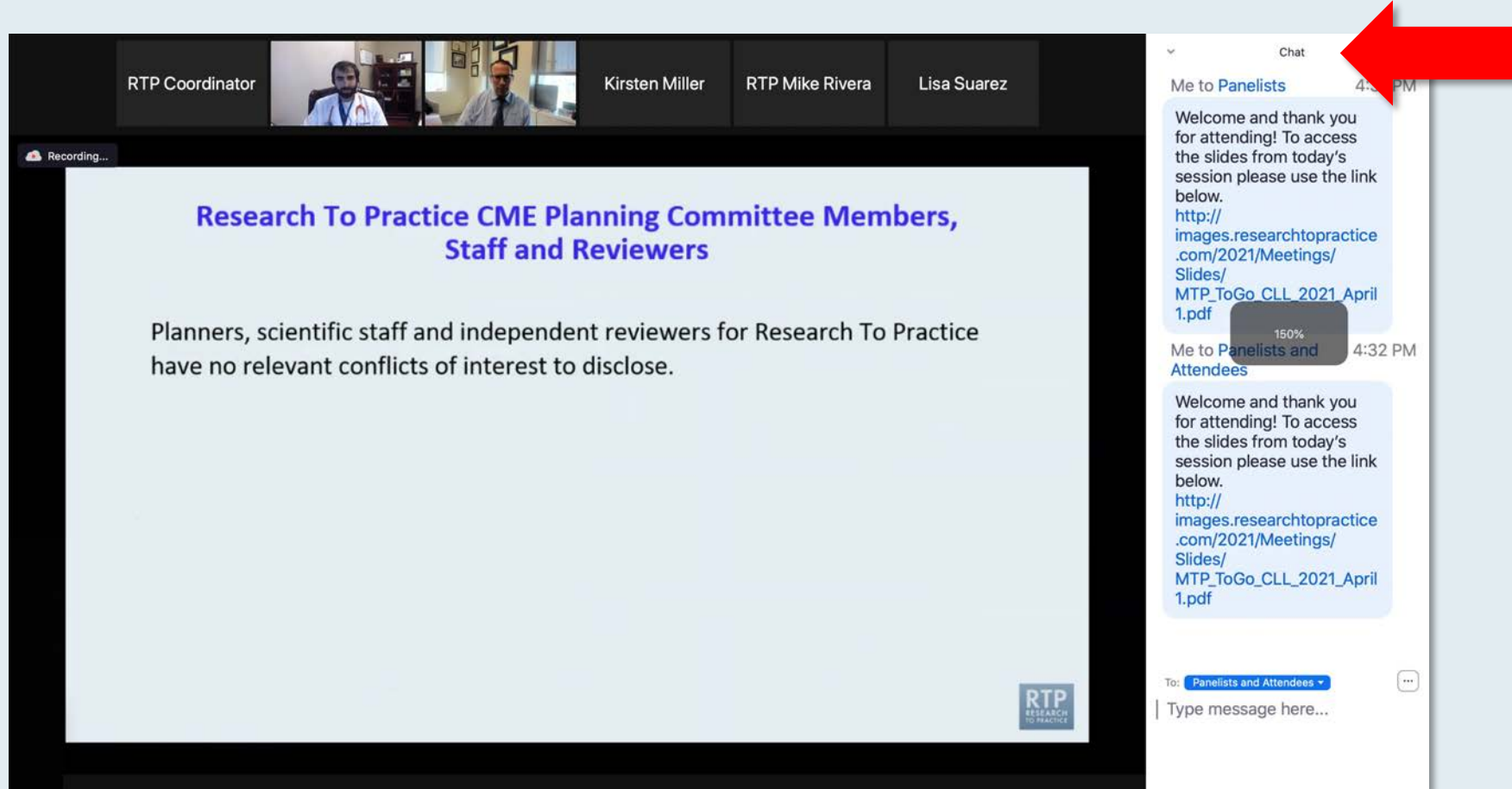
- John N Allan, MD**
Assistant Professor of Medicine
Weill Cornell Medicine
New York, New York
- Ian W Flinn, MD, PhD**
Director of Lymphoma Research Program
Sarah Cannon Research Institute
Tennessee Oncology
Nashville, Tennessee
- Steven Coutre, MD**
Professor of Medicine (Hematology)
Stanford University School of Medicine
Stanford, California
- Prof John G Gribben, MD, DSc, FMedSci**
Chair of Medical Oncology
Barts Cancer Institute
Queen Mary University of London
Charterhouse Square
London, United Kingdom
- Matthew S Davids, MD, MMSc**
Associate Professor of Medicine
Harvard Medical School
Director of Clinical Research
Division of Lymphoma
Dana-Farber Cancer Institute
Boston, Massachusetts
- Brian T Hill, MD, PhD**
Director, Lymphoid Malignancy Program
Cleveland Clinic Taussig Cancer Institute
Cleveland, Ohio

The chat window on the right is expanded, showing two messages from "Me to Panelists" and "Me to Panelists and Attendees" at 4:31 PM and 4:32 PM respectively. The messages contain a welcome message and a link to a PDF slide: http://images.researchtopractice.com/2021/Meetings/Slides/MTP_ToGo_CLL_2021_April1.pdf. The chat submission box at the bottom is expanded, showing a red arrow pointing to the white line above the "Type message here..." input field.

Drag the white line above the submission box up to create more space for your message.

Familiarizing Yourself with the Zoom Interface

Increase chat font size



The screenshot displays a Zoom meeting interface. At the top, there are video thumbnails for participants: RTP Coordinator, Kirsten Miller, RTP Mike Rivera, and Lisa Suarez. The main content area shows a slide titled "Research To Practice CME Planning Committee Members, Staff and Reviewers" with the text: "Planners, scientific staff and independent reviewers for Research To Practice have no relevant conflicts of interest to disclose." A "Recording..." indicator is visible in the top left of the slide area. On the right, the chat window is open, showing a message from "Me to Panelists" at 4:32 PM. The message text is: "Welcome and thank you for attending! To access the slides from today's session please use the link below. http://images.researchtopractice.com/2021/Meetings/Slides/MTP_ToGo_CLL_2021_April 1.pdf". A red arrow points to the chat window, and a small grey box with "150%" is overlaid on the chat text, indicating the font size has been increased. The chat input field at the bottom shows "To: Panelists and Attendees" and "Type message here..."

**Press Command (for Mac) or Control (for PC) and the + symbol.
You may do this as many times as you need for readability.**

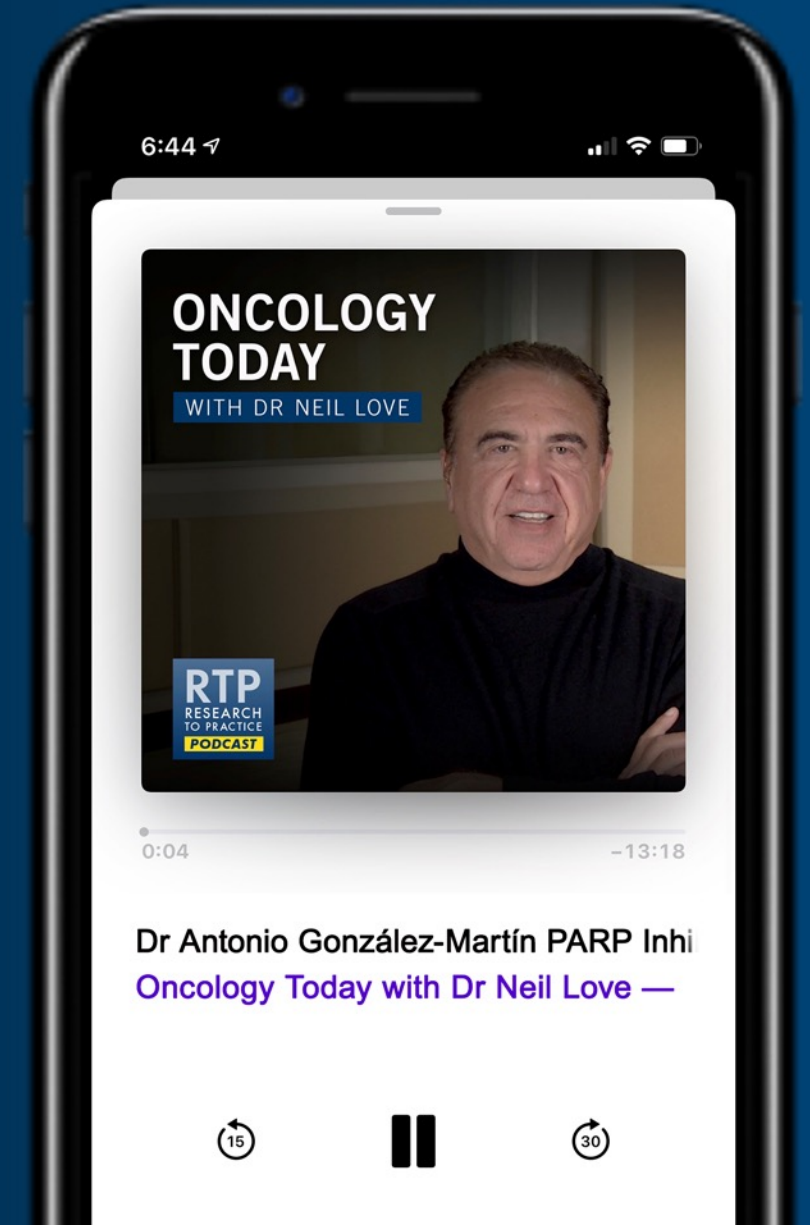
ONCOLOGY TODAY

WITH DR NEIL LOVE

PARP Inhibitors in Ovarian Cancer



DR ANTONIO GONZÁLEZ-MARTÍN
CLÍNICA UNIVERSIDAD DE NAVARRA



Ask the Expert: Clinical Investigators Provide Perspectives on the Management of Renal Cell Carcinoma

In Partnership with Project Echo[®] and Florida Cancer Specialists

**Wednesday, June 2, 2021
5:00 PM – 6:00 PM ET**

Faculty

Walter Stadler, MD

Moderator

Neil Love, MD

RTP
RESEARCH
TO PRACTICE

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Meet The Professor

Optimizing the Selection and Sequencing of Therapy for Patients with Advanced Gastrointestinal Cancers

**Monday, June 7, 2021
5:00 PM – 6:00 PM ET**

Faculty

Kristen K Ciombor, MD, MSCI

Moderator

Neil Love, MD

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Optimizing the Selection and Sequencing of Therapy for Patients with Renal Cell Carcinoma

Wednesday, June 16, 2021

5:00 PM – 6:00 PM ET

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Thomas E Hutson, DO, PharmD

Moderator

Neil Love, MD

ASCO Highlights and More: Investigators Review Recent Data Sets and Provide Perspectives on Current Oncology Care

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(9:00 AM – 4:00 PM Eastern Time)

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Thank you for joining us!

CME and MOC credit information will be emailed to each participant within 5 business days.

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Professor of Gynecology and Obstetrics
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Johns Hopkins Sidney Kimmel Comprehensive
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Baltimore, Maryland



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School of Medicine
UCLA Medical Center
Los Angeles, California



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Vice Chancellor, UAMS
Director, Winthrop P Rockefeller Cancer Institute
Director, Cancer Service Line
University of Arkansas for Medical Sciences
Little Rock, Arkansas



Bradley J Monk, MD
Professor, Division of Gynecologic Oncology
Arizona Oncology (US Oncology Network)
University of Arizona College of Medicine
Creighton University School of Medicine at
St Joseph's Hospital
Medical Director, US Oncology Network
(McKesson) Gynecologic Program
Co-Director, GOG Partners
Member, Board of Directors, GOG Foundation
Phoenix, Arizona



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Chief Scientific Officer
US Oncology Research
Gynecologic Oncology
The Woodlands, Texas

Meet The Professor Program Participating Faculty



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Head of Gynaecologic Cancer Programme
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Hospital Universitari Vall d'Hebron
Vall d'Hebron Barcelona Hospital Campus
Barcelona, Spain



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Professor and Chief
Division of Gynecologic Oncology
Washington University School of Medicine
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David M O'Malley, MD

Professor
Division Director, Gynecologic Oncology
Co-Director, Gyn Oncology Phase I Program
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Brian M Slomovitz, MD

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and Gynecology
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Miami, Florida



Richard T Penson, MD, MRCP

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Harvard Medical School
Clinical Director, Medical Gynecologic Oncology
Massachusetts General Hospital
Boston, Massachusetts

Meet The Professor Program Participating Faculty



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Professor and Division Director
Division of Gynecologic Oncology
University of California, Irvine
Irvine, California



Professor Ignace Vergote
Chairman, Department of Obstetrics and
Gynaecology
Gynaecological Oncologist
Leuven Cancer Institute
University Hospital Leuven
Leuven, Belgium

We Encourage Clinicians in Practice to Submit Questions

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1. Carfilzomib +/- dexamethasone
2. Pomalidomide +/- dexamethasone
3. Carfilzomib + pomalidomide +/- dexamethasone
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7. Daratumumab + pomalidomide +/- dexamethasone
8. Daratumumab + bortezomib +/- dexamethasone
9. Ixazomib + Rd
10. Other

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Participants (10)

Name	Initials	Microphone	Video
John Smith	JS	On	Off
Mary Major	MM	On	Off
Richard Miles	RM	On	Off
John Noakes	JN	On	Off
Alice Suarez	AS	Off	Off
Jane Perez	JP	Off	Off
Robert Stiles	RS	Off	Off
Juan Fernandez	JF	Off	Off
Ashok Kumar	AK	Off	Off
Jeremy Smith	JS	Off	Off

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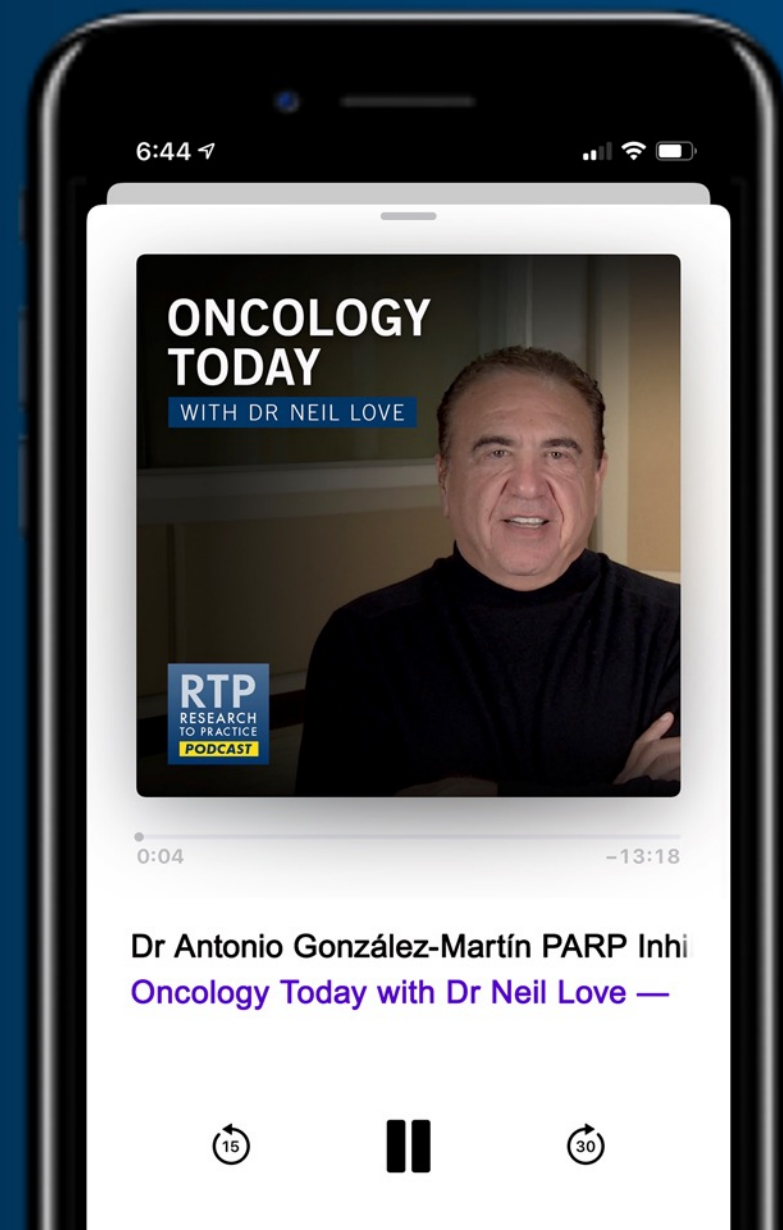
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Shannon N Westin, MD, MPH

Associate Professor

Director, Early Drug Development

Department of Gynecologic Oncology and Reproductive Medicine

The University of Texas MD Anderson Cancer Center

Houston, Texas

Meet The Professor with Dr Armstrong

MODULE 1: Cases from the Practice of Dr Shannon Westin

- A 70-year-old woman with ER/PR-positive, MSI-high endometrioid adenocarcinoma
- A 48-year-old woman with MSS, HER2-positive uterine serous carcinoma
- A 42-year-old woman with PD-L1-positive, metastatic cervical cancer

MODULE 2: Beyond the Guidelines – Clinical Investigator Approaches to Common Clinical Scenarios

MODULE 3: Key Recent Data Sets

MODULE 4: Appendix

How long have you been in the field of oncology?

1. Less than 5 years
2. 5-10 years
3. 11-20 years
4. 21-30 years
5. 31-40 years
6. More than 40 years

In general, do you discuss the issue of the gut microbiome and the use of antibiotics with your patients who are receiving checkpoint inhibitors?

1. Yes

2. No

3. I am not familiar with this issue

Meet The Professor with Dr Armstrong

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MODULE 2: Beyond the Guidelines – Clinical Investigator Approaches to Common Clinical Scenarios

MODULE 3: Key Recent Data Sets

MODULE 4: Appendix

Case Presentation – Dr Westin: A 70-year-old woman with ER/PR-positive, microsatellite instability (MSI)-high endometrioid adenocarcinoma (Part 1)



Dr Shannon Westin

- Presents with postmenopausal bleeding x 2 weeks
- D & C pathology: FIGO grade 2 endometrioid adenocarcinoma of the endometrium
- Total laparoscopic hysterectomy, bilateral oophorectomy, pelvic/paraortic lymph node dissection
 - Pathology: 3-cm FIGO grade 2 endometrioid adenocarcinoma of the endometrium invading 4/11 mm, LVSI-positive, lymph node-negative, ER/PR-positive, MSI-high

Questions

- How would you treat this patient?

Case Presentation – Dr Westin: A 70-year-old woman with ER/PR-positive, MSI-high endometrioid adenocarcinoma (Part 2)



Dr Shannon Westin

- Presents with postmenopausal bleeding x 2 weeks
- D & C pathology: FIGO grade 2 endometrioid adenocarcinoma of the endometrium
- Total laparoscopic hysterectomy, bilateral oophorectomy, pelvic/paraortic lymph node dissection
 - Pathology: 3-cm FIGO grade 2 endometrioid adenocarcinoma of the endometrium invading 4/11 mm, LVSI-positive, lymph node-negative, ER/PR-positive, MSI-high
- ***Cuff brachytherapy → NED x 2 years***
- ***Biopsy of abdominal wall nodule c/w recurrent disease → Abdominal wall resection***
 - ***Pathology c/w metastatic endometrioid adenocarcinoma with negative margins***

Questions

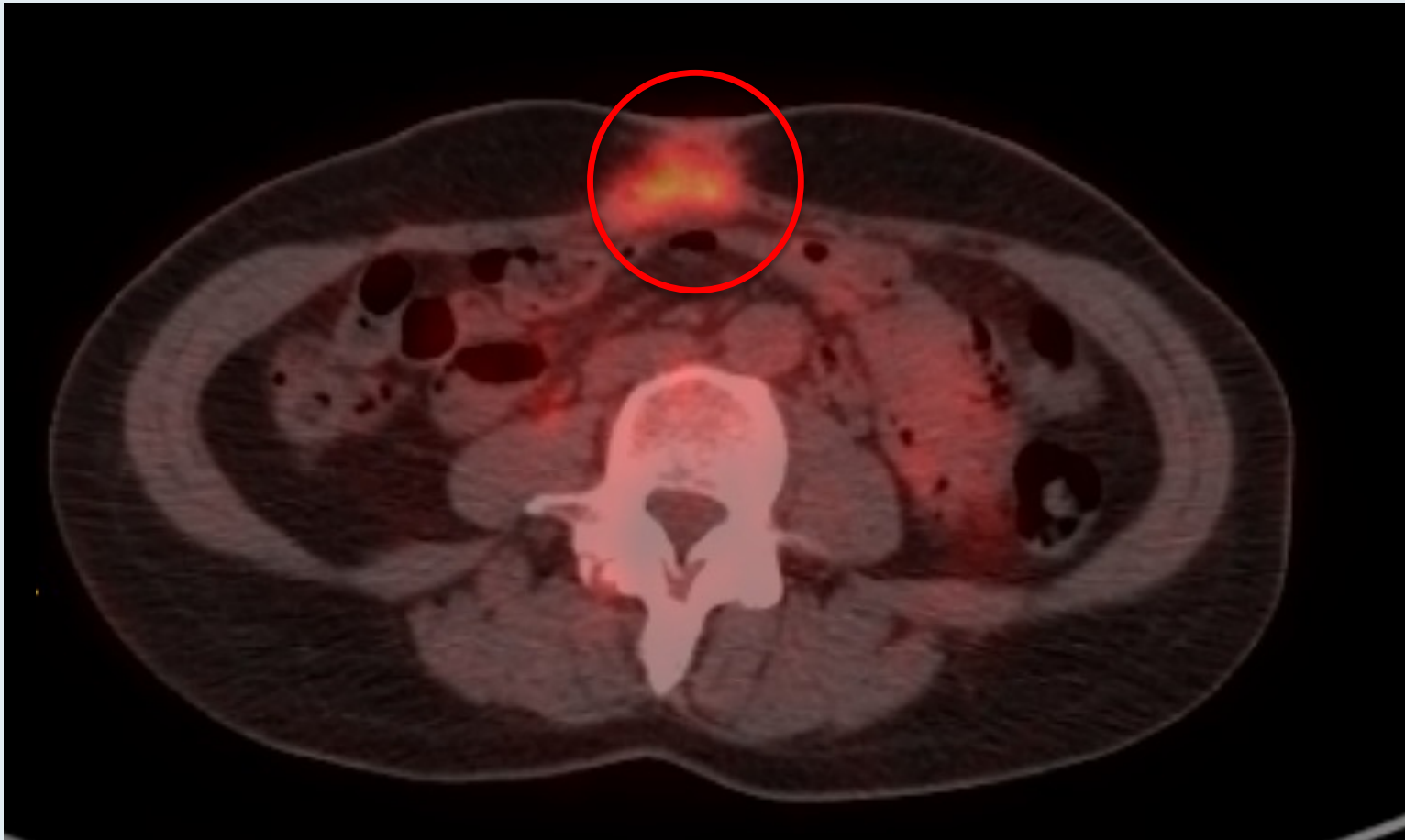
- ***How would you approach treatment at this point?***

Case Presentation – Dr Westin: A 70-year-old woman with ER/PR-positive, MSI-high endometrioid adenocarcinoma



Dr Shannon Westin

Abdominal Wall Nodule



Case Presentation – Dr Westin: A 70-year-old woman with ER/PR-positive, MSI-high endometrioid adenocarcinoma (Part 3)



Dr Shannon Westin

- Presents with postmenopausal bleeding x 2 weeks
- D & C pathology: FIGO grade 2 endometrioid adenocarcinoma of the endometrium
- Total laparoscopic hysterectomy, bilateral oophorectomy, pelvic/paraortic lymph node dissection
 - Pathology: 3-cm FIGO grade 2 endometrioid adenocarcinoma of the endometrium invading 4/11 mm, LVSI-positive, lymph node-negative, ER/PR-positive, MSI-high
- Cuff brachytherapy → NED x 2 years
- Biopsy of abdominal wall nodule c/w recurrent disease → Abdominal wall resection
 - Pathology c/w metastatic endometrioid adenocarcinoma with negative margins
- ***Postoperative RT to operative bed → NED x 12 months → Presents with persistent cough***
- ***Imaging and biopsy: Multiple lung nodules c/w recurrent endometrioid adenocarcinoma***

Questions

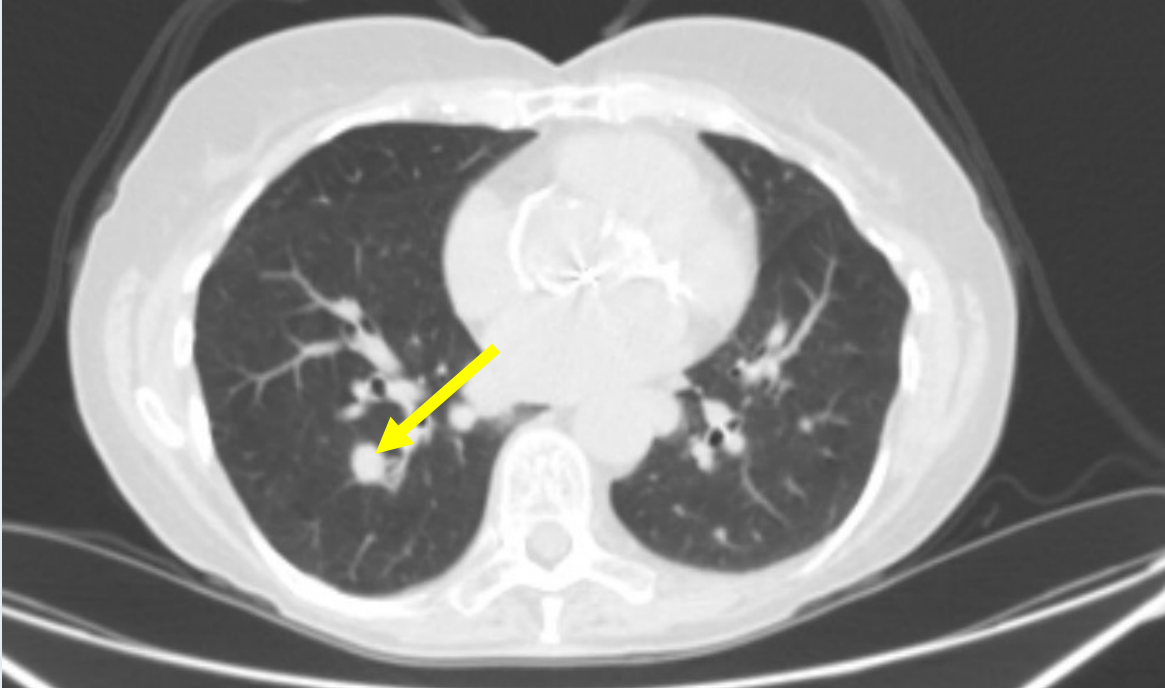
- ***What are her treatment options – chemotherapy, hormonal therapy, hormonal therapy plus everolimus, or immunotherapy?***

Case Presentation – Dr Westin: A 70-year-old woman with ER/PR-positive, MSI-high endometrioid adenocarcinoma

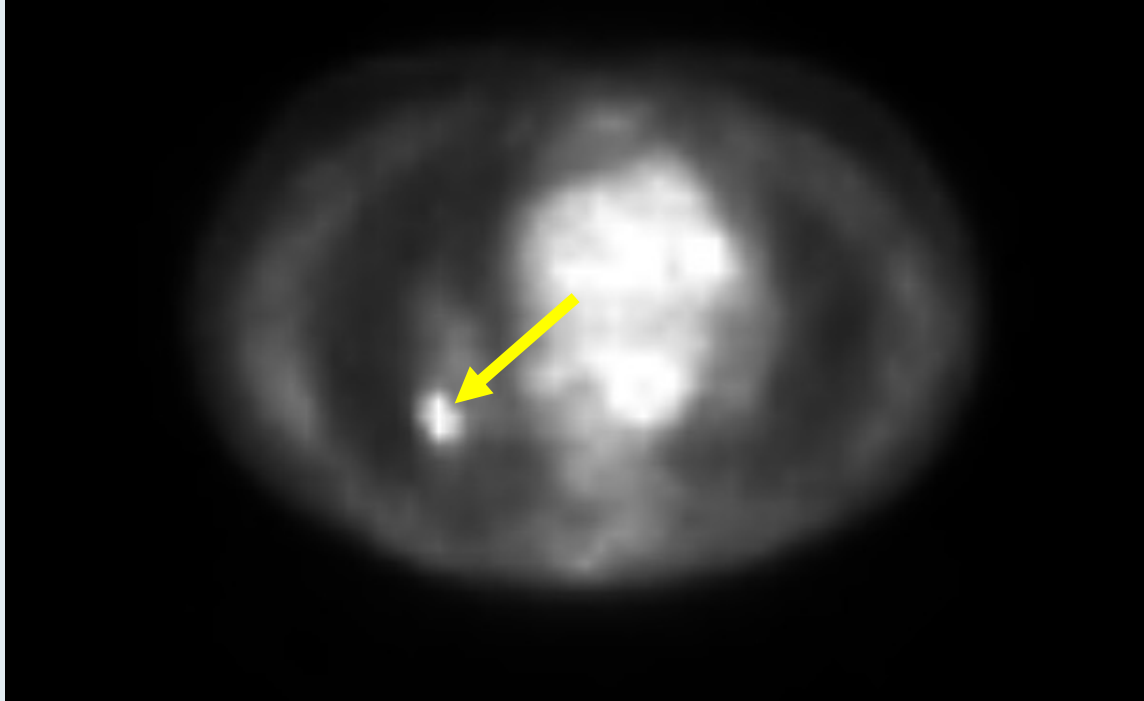


Dr Shannon Westin

Imaging: Multiple Lung Nodules



PET



Case Presentation – Dr Westin: A 70-year-old woman with ER/PR-positive, MSI-high endometrioid adenocarcinoma (Part 4)



Dr Shannon Westin

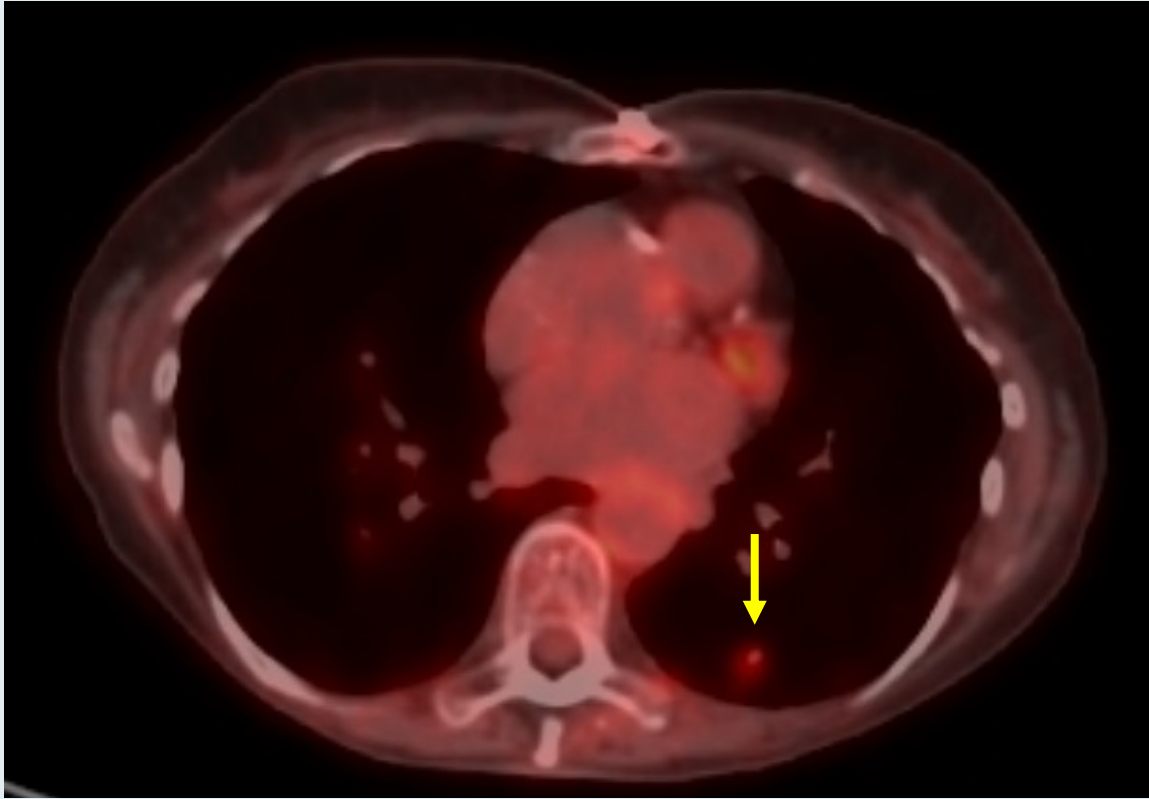
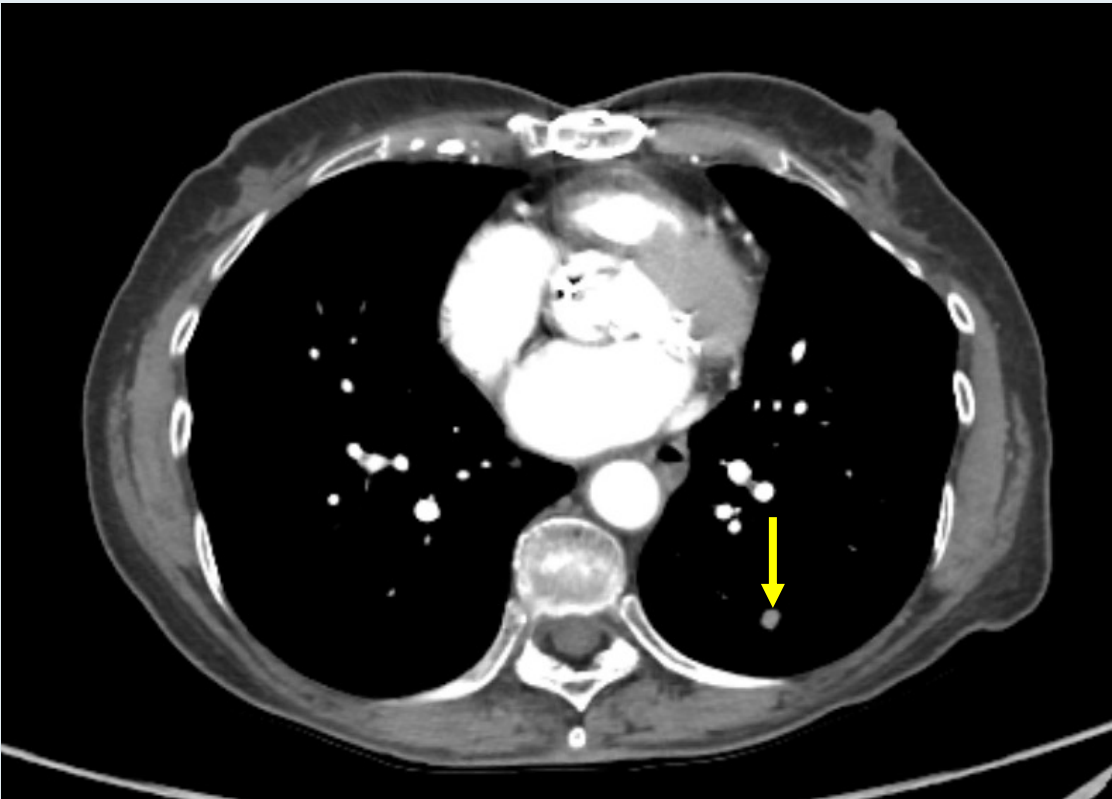
- Biopsy of abdominal wall nodule c/w recurrent disease → Abdominal wall resection
 - Pathology c/w metastatic endometrioid adenocarcinoma with negative margins
- Postoperative RT to operative bed → NED x 12 months → Presents with persistent cough
- Imaging and biopsy: Multiple lung nodules c/w recurrent endometrioid adenocarcinoma
- ***Due to an upcoming wedding, patient desires to avoid chemotherapy → Recurrence in her lungs***
- ***Megestrol acetate and tamoxifen x 12, with CR***
- ***Pembrolizumab x 9 months, with PR***
 - ***Diarrhea treated with antidiarrheals, steroids***

Case Presentation – Dr Westin: A 70-year-old woman with ER/PR-positive, MSI-high endometrioid adenocarcinoma



Dr Shannon Westin

Recurrence in the Lungs



Case Presentation – Dr Westin: A 48-year-old woman with microsatellite-stable (MSS), HER2-positive uterine serous carcinoma (Part 1)



Dr Shannon Westin

- Presents with bloating, abdominal pain and irregular menses for several years
- Endometrial biopsy: Uterine serous carcinoma, CA125: 200

Questions

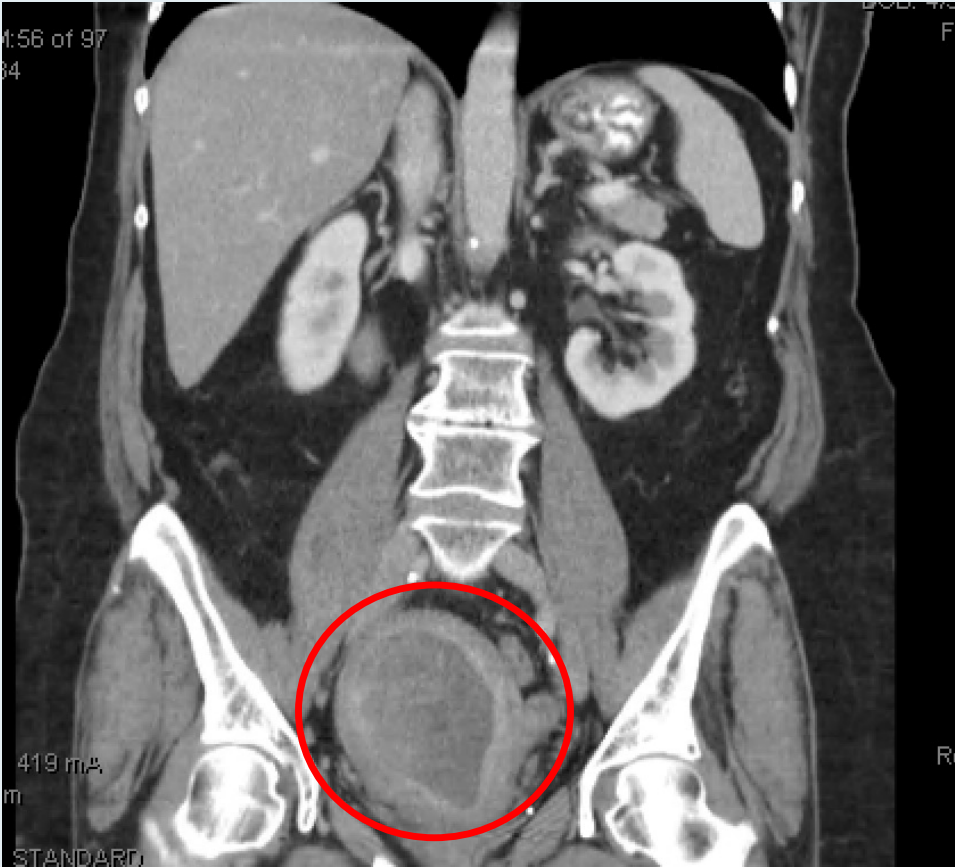
- Should we operate on this patient with Stage IV uterine serous carcinoma? What is the data for neoadjuvant therapy in a patient like this woman?

Case Presentation – Dr Westin: A 48-year-old woman with MSS, HER2-positive uterine serous carcinoma



Dr Shannon Westin

Large, Bulky Uterus at Diagnosis



Omental Caking



Case Presentation – Dr Westin: A 48-year-old woman with MSS, HER2-positive uterine serous carcinoma (Part 2)



Dr Shannon Westin

- Presents with bloating, abdominal pain and irregular menses for several years
- Endometrial biopsy: Uterine serous carcinoma, CA125: 200
- ***TAH/BSO, omentectomy, liver resection, diaphragm stripping to complete gross resection***
 - ***Final pathology: Stage IV uterine serous carcinoma***
 - ***HER2 IHC 3+, MSS***

Questions

- ***What do you do for this patient now that she has undergone successful tumor reductive surgery without any complications? How do you treat her now?***

Case Presentation – Dr Westin: A 48-year-old woman with MSS, HER2-positive uterine serous carcinoma (Part 3)



Dr Shannon Westin

- Presents with bloating, abdominal pain and irregular menses for several years
- Endometrial biopsy: Uterine serous carcinoma, CA125: 200
- TAH/BSO, omentectomy, liver resection, diaphragm stripping to complete gross resection
 - Final pathology: Stage IV uterine serous carcinoma
 - HER2 IHC 3+, MSS
- ***Carboplatin/paclitaxel/trastuzumab x 6, with NED → Trastuzumab maintenance x 6 months***
- ***Increasing abdominal pain and bloating → Imaging shows recurrent disease in the spleen and potentially in the diaphragm and liver as well***

Questions

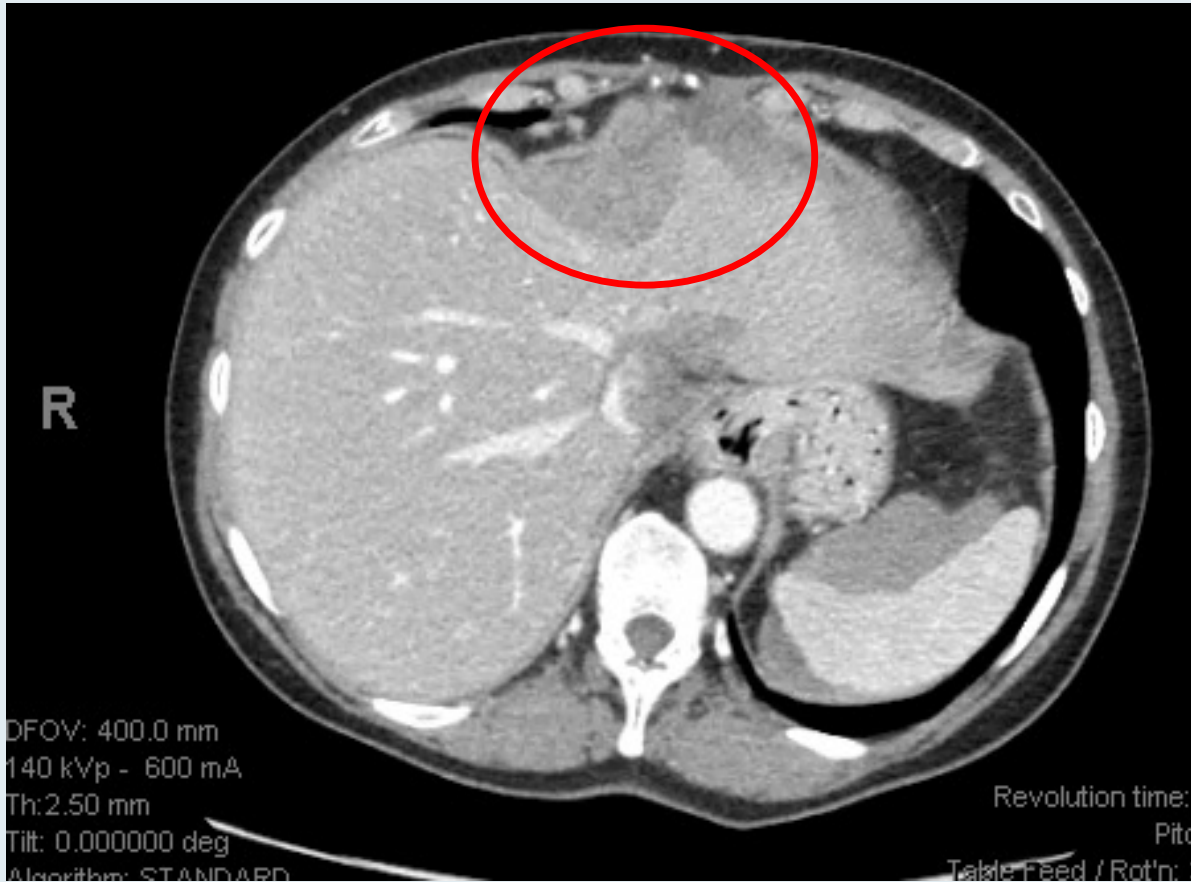
- ***What are her therapeutic options at this point?***

Case Presentation – Dr Westin: A 48-year-old woman with MSS, HER2-positive uterine serous carcinoma



Dr Shannon Westin

Recurrent Disease in the Diaphragm, Possibly Liver



Recurrent Disease in the Spleen



Case Presentation – Dr Westin: A 48-year-old woman with MSS, HER2-positive uterine serous carcinoma (Part 4)



Dr Shannon Westin

- Presents with bloating, abdominal pain and irregular menses for several years
- Endometrial biopsy: Uterine serous carcinoma, CA125: 200
- TAH/BSO, omentectomy, liver resection, diaphragm stripping to complete gross resection
 - Final pathology: Stage IV uterine serous carcinoma
 - HER2 IHC 3+, MSS
- Carboplatin/paclitaxel/trastuzumab x 6 to NED → Trastuzumab maintenance x 6 months
- Increasing abdominal pain and bloating → Imaging shows recurrent disease in the spleen and potentially in the diaphragm and liver as well
- ***Lenvatinib/pembrolizumab, with hypertension and Grade 3/4 fatigue***
 - ***Lenvatinib dose interruption → dose reduction to 14 mg qd***
 - ***After 4 cycles, significant disease reduction and good tolerability and QoL***

Pertuzumab plus Trastuzumab (P+T) in Patients (Pts) with Uterine Cancer (UC) with ERBB2 or ERBB3 Amplification, Overexpression or Mutation: Results from the Targeted Agent and Profiling Utilization Registry (TAPUR) Study

Ali-Ahmad HM et al.

ASCO 2021;Abstract 5508.

Gynecologic Cancer Oral Abstract Session, Monday, June 7th 8:00 – 11:00 AM

Case Presentation – Dr Westin: A 42-year-old woman with PD-L1-positive, metastatic cervical cancer (Part 1)



Dr Shannon Westin

- Diagnosed with Grade 2 squamous carcinoma of the cervix, s/p cut-through hysterectomy
 - 3.5-cm tumor invading more than half the cervical thickness with some lymphovascular space invasion
- Imaging shows no other evidence of disease

Questions

- What would you recommend next for this patient?

Case Presentation – Dr Westin: A 42-year-old woman with PD-L1-positive, metastatic cervical cancer (Part 2)



Dr Shannon Westin

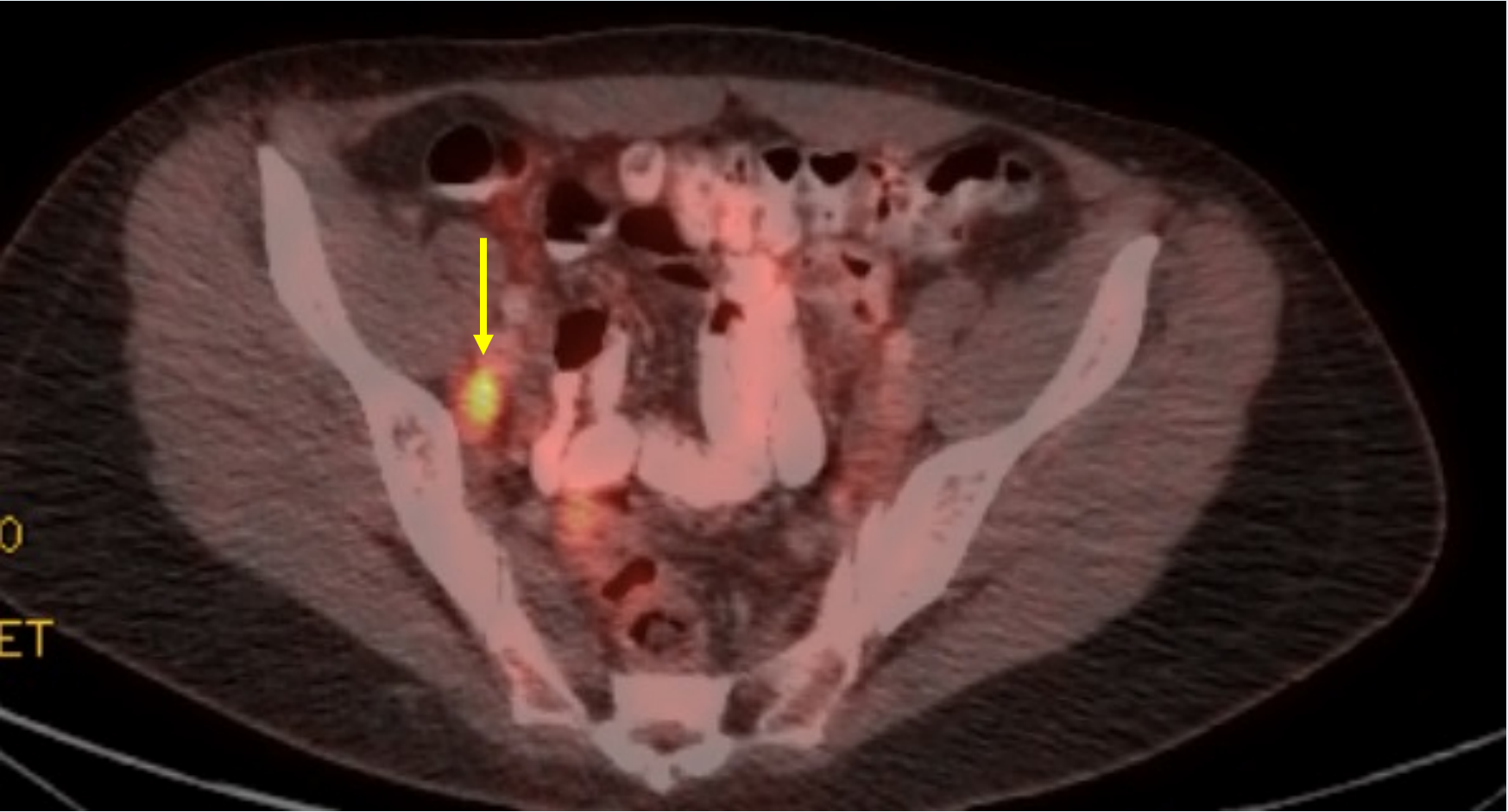
- Diagnosed with Grade 2 squamous carcinoma of the cervix, s/p cut-through hysterectomy
 - 3.5-cm tumor invading more than half the cervical thickness with some lymphovascular space invasion
- Imaging shows no other evidence of disease
- ***IMRT with concurrent cisplatin chemosensitization → complete response***
- ***9 months later, she presents with abdominal pain***
- ***Imaging detects activity in right pelvic node confirmed by pathology to be recurrence***
- ***Pembrolizumab, with complete response after 3 cycles***
 - ***After 6 cycles, worsening SOB and cough; pulmonary work up negative for infection → prednisone and dapson x weeks***
 - ***Pembrolizumab discontinued at 2 years***

Case Presentation – Dr Westin: A 42-year-old woman with PD-L1-positive, metastatic cervical cancer (Part 2)



Dr Shannon Westin

Pelvic Node Recurrence



Meet The Professor with Dr Armstrong

MODULE 1: Cases from the Practice of Dr Shannon Westin

- A 70-year-old woman with ER/PR-positive, MSI-high endometrioid adenocarcinoma
- A 48-year-old woman with MSS, HER2-positive uterine serous carcinoma
- A 42-year-old woman with PD-L1-positive, metastatic cervical cancer

MODULE 2: Beyond the Guidelines – Clinical Investigator Approaches to Common Clinical Scenarios

MODULE 3: Key Recent Data Sets

MODULE 4: Appendix

In general, what treatment would you recommend for a patient with microsatellite-stable metastatic endometrial cancer who experienced disease progression on carboplatin/paclitaxel?

1. Cisplatin/doxorubicin
2. Carboplatin/docetaxel
3. Lenvatinib/pembrolizumab
4. Test for PD-L1 combined positive score (CPS) and administer pembrolizumab if 1% or higher
5. Pembrolizumab
6. Other chemotherapy
7. Other

In general, what treatment would you recommend for a patient with metastatic endometrial cancer who experienced disease progression on carboplatin/paclitaxel if their disease was microsatellite stable (MSS)?



Dr Birrer

**Lenvatinib/
pembrolizumab**



Dr Penson

**Lenvatinib/
pembrolizumab**



Dr Coleman

**Lenvatinib/
pembrolizumab**



Dr Powell

**Lenvatinib/
pembrolizumab**



Dr Oaknin

**Lenvatinib/
pembrolizumab**



Dr Slomovitz

**Lenvatinib/
pembrolizumab**



Dr O'Malley

**Lenvatinib/
pembrolizumab**



Dr Tewari

**Lenvatinib/
pembrolizumab**

In general, what treatment would you recommend for a patient with MSI-high metastatic endometrial cancer who experienced disease progression on carboplatin/paclitaxel?

1. Cisplatin/doxorubicin
2. Carboplatin/docetaxel
3. Lenvatinib/pembrolizumab
4. Pembrolizumab
5. Other chemotherapy
6. Other

In general, what treatment would you recommend for a patient with metastatic endometrial cancer who experienced disease progression on carboplatin/paclitaxel if their disease was MSI high?



Dr Birrer

Pembrolizumab



Dr Penson

Pembrolizumab



Dr Coleman

Pembrolizumab



Dr Powell

Pembrolizumab



Dr Oaknin

Dostarlimab



Dr Slomovitz

Pembrolizumab



Dr O'Malley









Pembrolizumab



Dr Tewari

Pembrolizumab

For a patient with MSI-high metastatic endometrial cancer, outside of a clinical trial setting and regulatory and reimbursement issues aside, what is the earliest point at which you would introduce an anti-PD-1/PD-L1 antibody?

 Dr Birrer	Second line	 Dr Penson	First line
 Dr Coleman	Second line	 Dr Powell	Second line
 Dr Oaknin	Second line	 Dr Slomovitz	Second line
 Dr O'Malley	First line	 Dr Tewari	Second line

Regulatory and reimbursement issues aside, in general, what would be your preferred second-line therapy for a patient with MSS metastatic cervical cancer who experiences disease progression on carboplatin/paclitaxel/bevacizumab?

1. Other chemotherapy
2. Test for PD-L1 CPS and administer pembrolizumab if 1% or higher
3. Pembrolizumab
4. Cemiplimab
5. Other

In general, what would be your preferred second-line therapy for a patient with MSS metastatic cervical cancer who experienced disease progression on carboplatin/paclitaxel/bevacizumab?



Dr Birrer

Pembrolizumab



Dr Penson

Test for PD-L1 CPS and administer pembrolizumab if 1% or higher



Dr Coleman

Test for PD-L1 CPS and administer pembrolizumab if 1% or higher



Dr Powell

Test for PD-L1 CPS and administer pembrolizumab if 1% or higher



Dr Oaknin

Anti-PD-1/PD-L1 antibody in general



Dr Slomovitz

Test for PD-L1 CPS and administer pembrolizumab if 1% or higher



Dr O'Malley

Test for PD-L1 CPS and administer pembrolizumab if 1% or higher



Dr Tewari

Test for PD-L1 CPS and administer pembrolizumab if 1% or higher

A patient with PD-L1-positive metastatic cervical cancer experiences disease progression on platinum-based therapy and has significant symptoms from her disease. If tisetumab vedotin and cemiplimab were accessible, what would likely be your next line of treatment?

1. Pembrolizumab
2. Cemiplimab
3. Tisetumab vedotin
4. Other

Do you generally evaluate microsatellite instability status in your patients with advanced ovarian cancer?

1. Yes

2. No

Do you generally evaluate microsatellite instability status in your patients with advanced ovarian cancer?

 Dr Birrer	Yes	 Dr Penson	Yes
 Dr Coleman	Yes	 Dr Powell	Yes
 Dr Oaknin	No	 Dr Slomovitz	No
 Dr O'Malley	Yes	 Dr Tewari	No

Meet The Professor with Dr Armstrong

MODULE 1: Cases from the Practice of Dr Shannon Westin

- A 70-year-old woman with ER/PR-positive, MSI-high endometrioid adenocarcinoma
- A 48-year-old woman with MSS, HER2-positive uterine serous carcinoma
- A 42-year-old woman with PD-L1-positive, metastatic cervical cancer

MODULE 2: Beyond the Guidelines – Clinical Investigator Approaches to Common Clinical Scenarios

MODULE 3: Key Recent Data Sets

MODULE 4: Appendix

Anti-PD-1/PD-L1 Checkpoint Inhibitors in Endometrial Cancer

Pembrolizumab in Patients with MSI-H Advanced Endometrial Cancer from the KEYNOTE-158 Study

O'Malley D et al.

ESMO 2019;Abstract 1044P.

FDA Grants Accelerated Approval to Dostarlimab-gxly for dMMR Endometrial Cancer

Press Release – April 22, 2021

“The Food and Drug Administration granted accelerated approval to dostarlimab-gxly for adult patients with mismatch repair deficient (dMMR) recurrent or advanced endometrial cancer, as determined by an FDA-approved test, that has progressed on or following a prior platinum-containing regimen.

Efficacy was evaluated based on cohort (A1) in GARNET Trial (NCT02715284), a multicenter, multicohort, open-label trial in patients with advanced solid tumors. The efficacy population consisted of 71 patients with dMMR recurrent or advanced endometrial cancer who progressed on or after a platinum-containing regimen. Patients received dostarlimab-gxly, 500 mg intravenously, every 3 weeks for 4 doses followed by 1,000 mg intravenously every 6 weeks.

The main efficacy endpoints were overall response rate (ORR) and duration of response (DOR), as assessed by blinded independent central review (BICR) according to RECIST 1.1. Confirmed ORR was 42.3%. The complete response rate was 12.7% and partial response rate was 29.6%. Median DOR was not reached, with 93.3% of patients having durations ≥ 6 months (range: 2.6 to 22.4 months, ongoing at last assessment).”

Interim Analysis of the Immune-Related Endpoints of the Mismatch Repair Deficient (dMMR) and Proficient (MMRp) Endometrial Cancer Cohorts from the GARNET Study

Pothuri B et al.

SGO 2021;Abstract 10417.

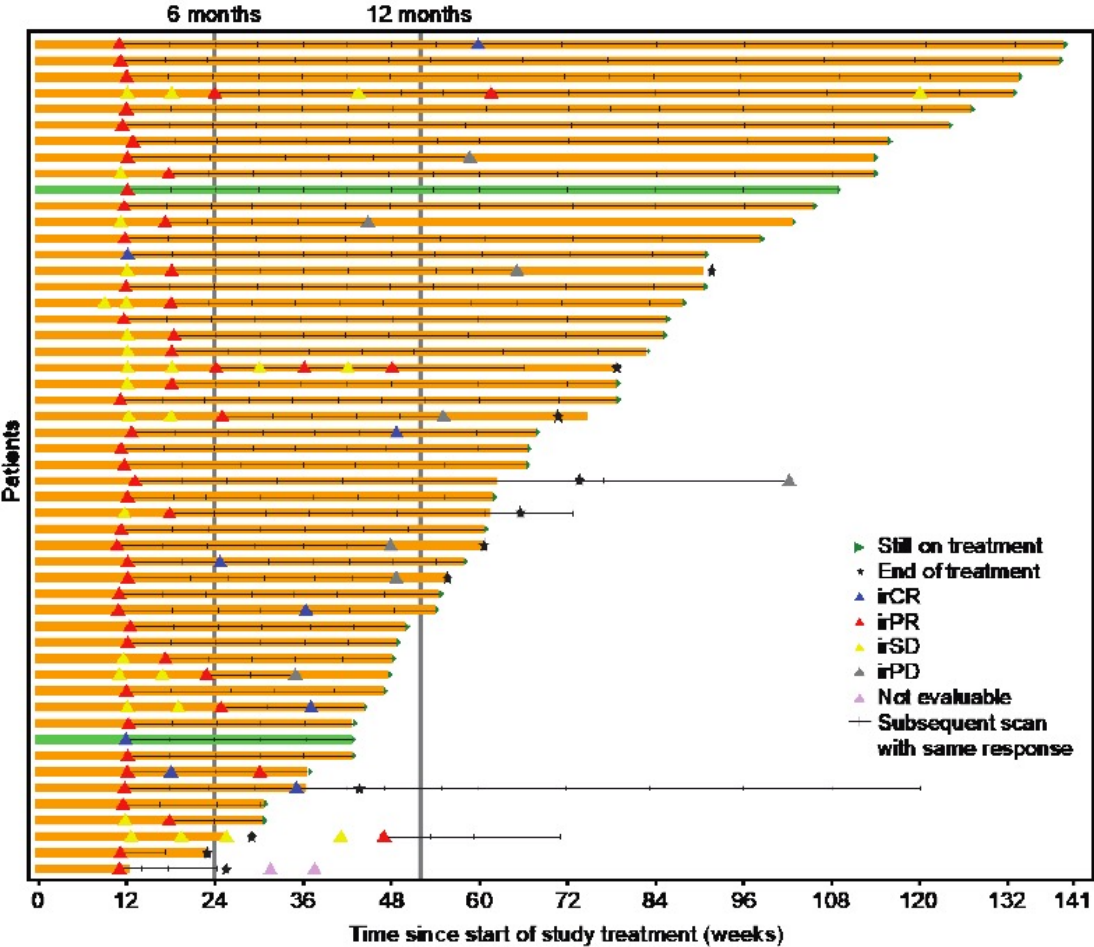
GARNET: Immune-Related Secondary Endpoints

(irRECIST by investigator assessment)		
Variable	dMMR N=110	MMRp N=144
Follow-up, median (range), months	16.5 (0.03–30.6)	13.7 (0.03–33.1)
irORR, n (%)	50 (45.5)	20 (13.9)
irCR	7 (6.4)	3 (2.1)
irPR	43 (39.1)	17 (11.8)
irSD	20 (18.2)	41 (28.5)
irPD	36 (32.7)	63 (43.8)
NE	4 (3.6)	20 (13.9)
irDCR, ^a n (%)	70 (63.6)	61 (42.4)
irDOR, ^b months	NR	12.2

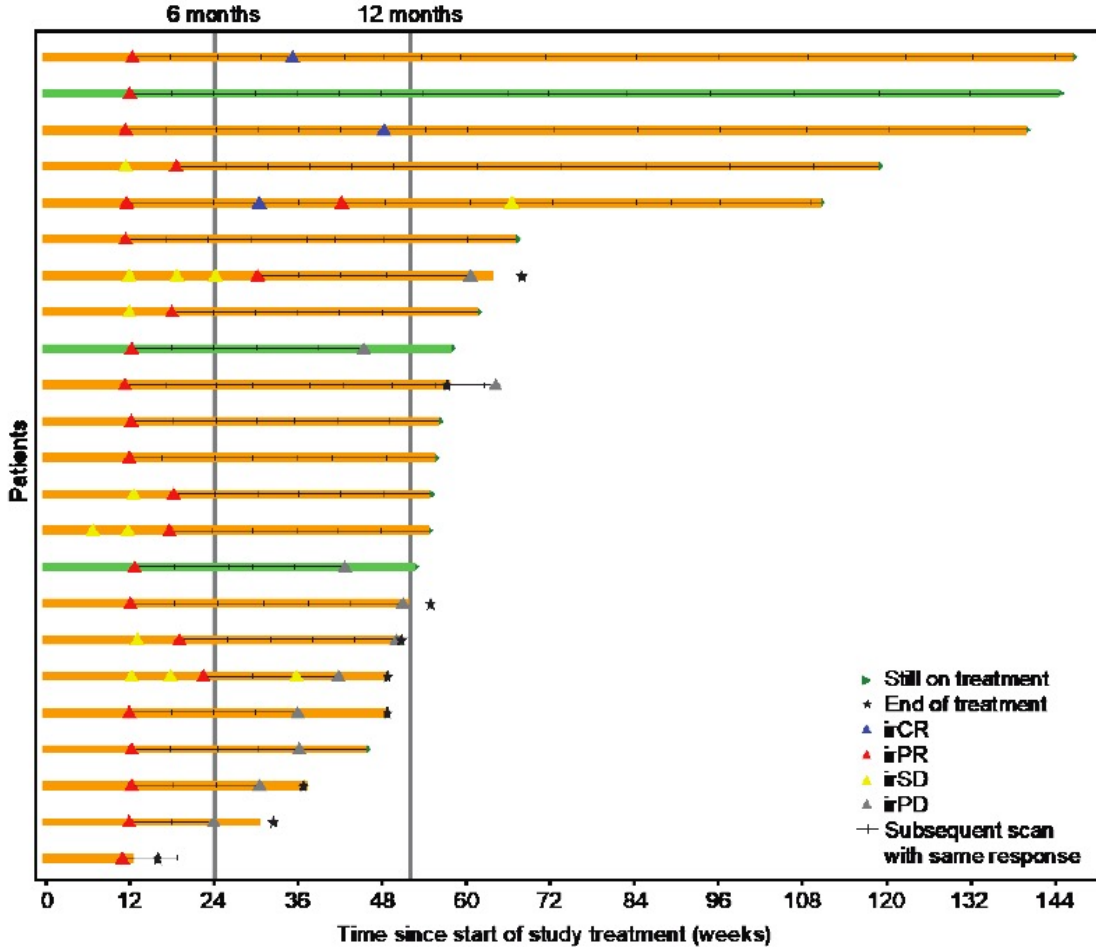
^aIncludes CR, PR, and SD \geq 12 weeks; ^bOnly includes responders.

GARNET: Duration of Response

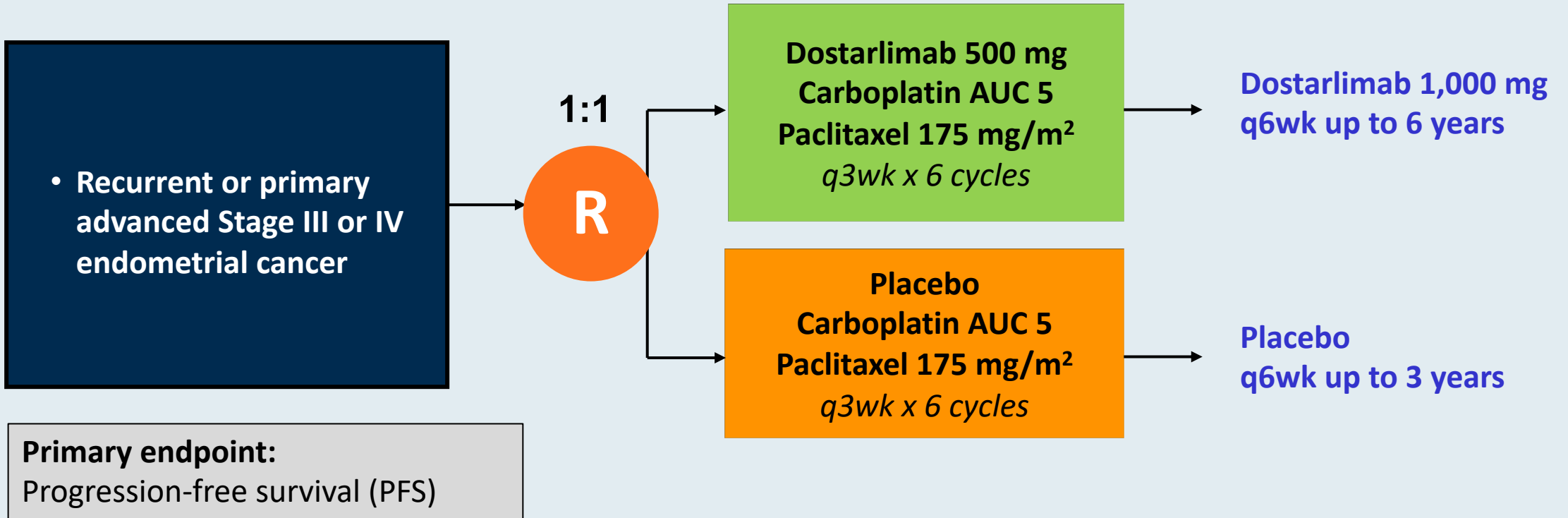
dMMR



MMRp

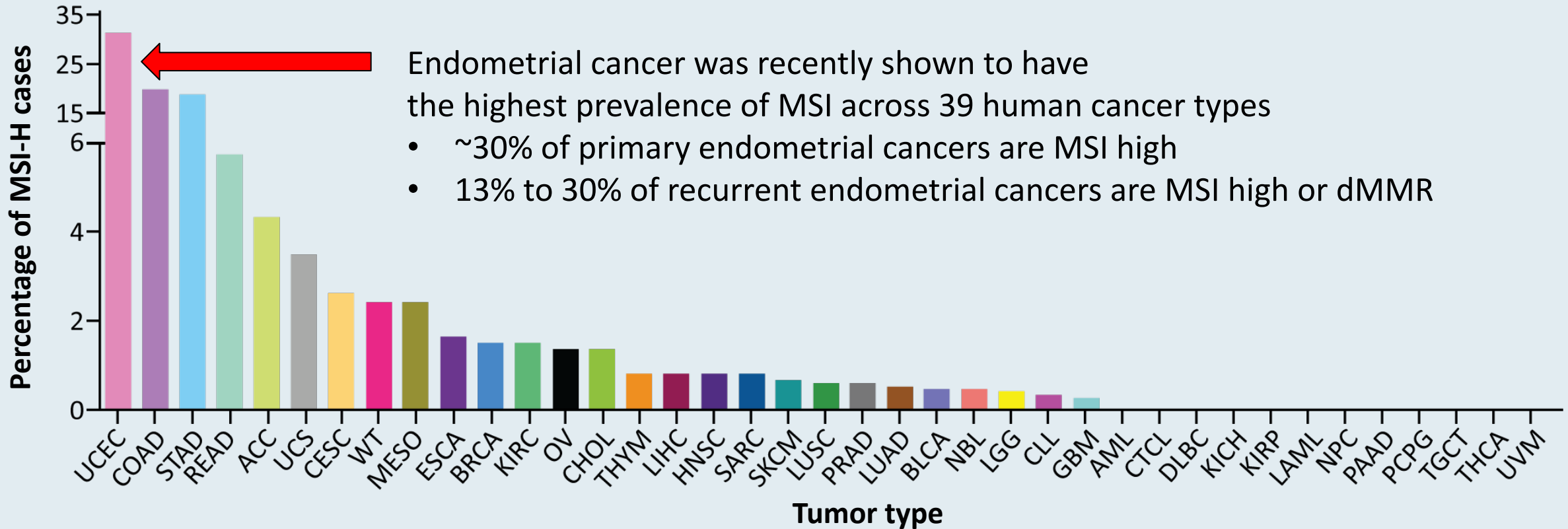


ENGOT-EN6/NSGO-RUBY Phase III Schema



High MSI Across 39 Cancer Types

Whole-exome data from 11,139 tumor-normal pairs from The Cancer Genome Atlas and Therapeutically Applicable Research to Generate Effective Treatments projects



UCEC = uterine corpus endometrial carcinoma

A Multicenter, Open-Label, Randomized, Phase III Study to Compare the Efficacy and Safety of Lenvatinib in Combination with Pembrolizumab versus Treatment of Physician's Choice in Patients with Advanced Endometrial Cancer: Study 309/KEYNOTE-775

Makker V et al.

SGO 2021;Abstract 11512.

Study 309/KEYNOTE-775: Phase III Trial Schema

Key eligibility criteria

- Advanced, metastatic, or recurrent endometrial cancer
- Measurable disease by BICR
- 1 Prior platinum-based CT^a
- ECOG PS 0-1
- Tissue available for MMR testing

Stratification factors

MMR status (pMMR vs dMMR) and further stratification within pMMR by:

- Region (R1: Europe, USA, Canada, Australia, New Zealand, and Israel, vs R2: rest of the world)
- ECOG PS (0 vs 1)
- Prior history of pelvic radiation (Y vs N)

R
(1:1)

Lenvatinib
20 mg PO QD
+
Pembrolizumab^b
200 mg IV Q3W

Treat until progression or unacceptable toxicity

Doxorubicin
60 mg/m² IV Q3W^c
or
Paclitaxel
80 mg/m² IV QW
(3 weeks on/1 week off)

Primary endpoints

- PFS by BICR
- Overall survival

Secondary endpoints

- ORR
- HRQoL
- Pharmacokinetics
- Safety

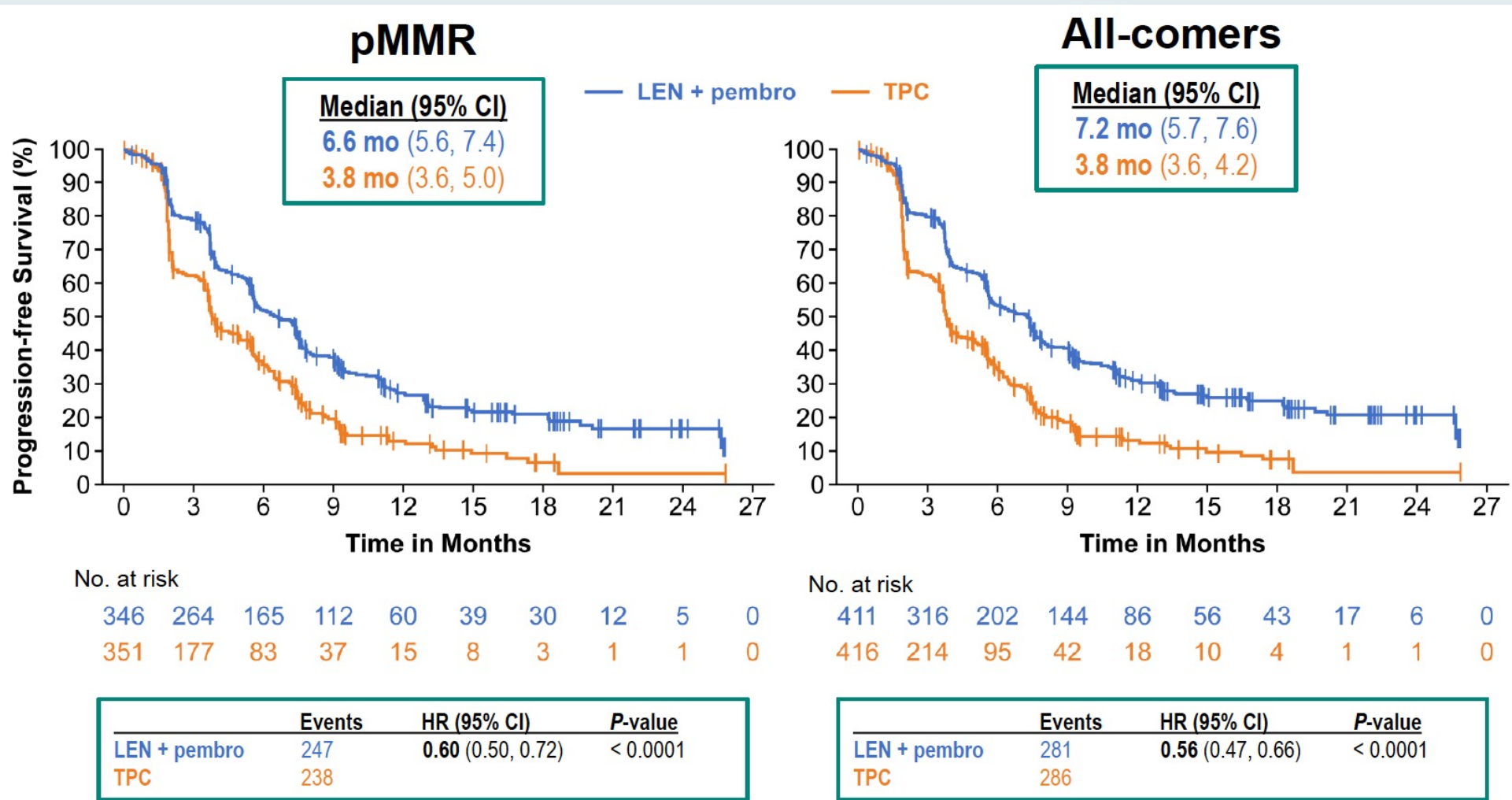
Key exploratory endpoint

- Duration of response

^aPatients may have received up to 2 prior platinum-based CT regimens if 1 is given in the neoadjuvant or adjuvant treatment setting. ^bMaximum of 35 doses. ^cMaximum cumulative dose of 500 mg/m².

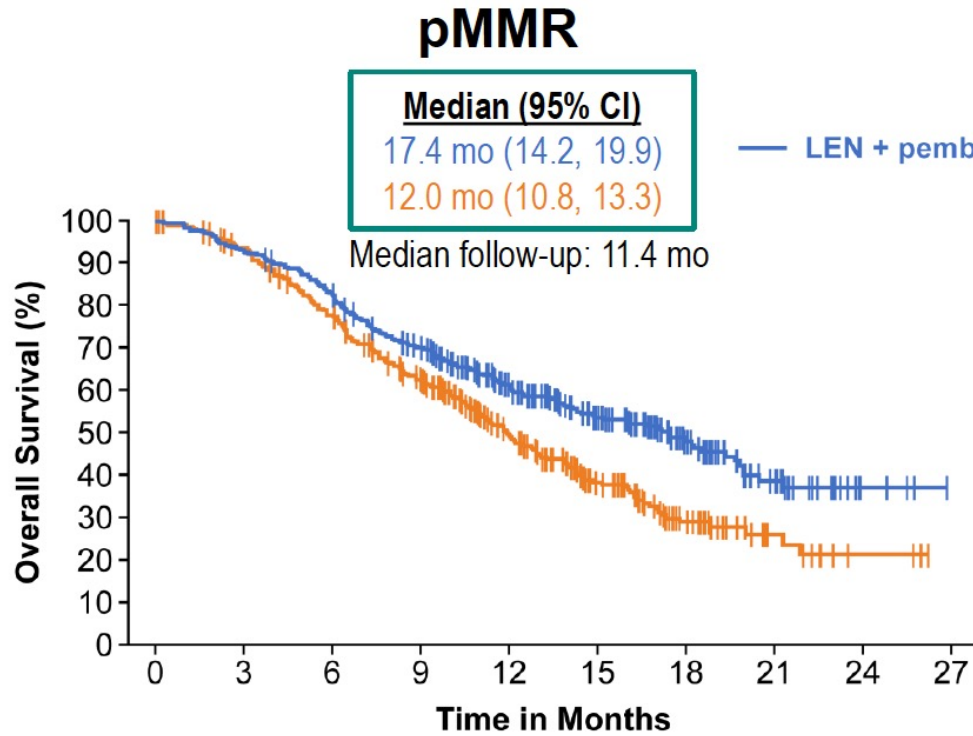
BICR, blinded independent central review; ECOG PS, Eastern Cooperative Oncology Group performance status; HRQoL, health-related quality of life; IV, intravenous; PFS, progression-free survival; pMMR, mismatch repair-proficient; ORR, objective response rate; PO, per os (by mouth); QD, once daily; Q3W, every 3 weeks; QW, once weekly.

Study 309/KEYNOTE-775: Progression-Free Survival



^aBy BICR per Response Evaluation Criteria in Solid Tumors version 1.1.

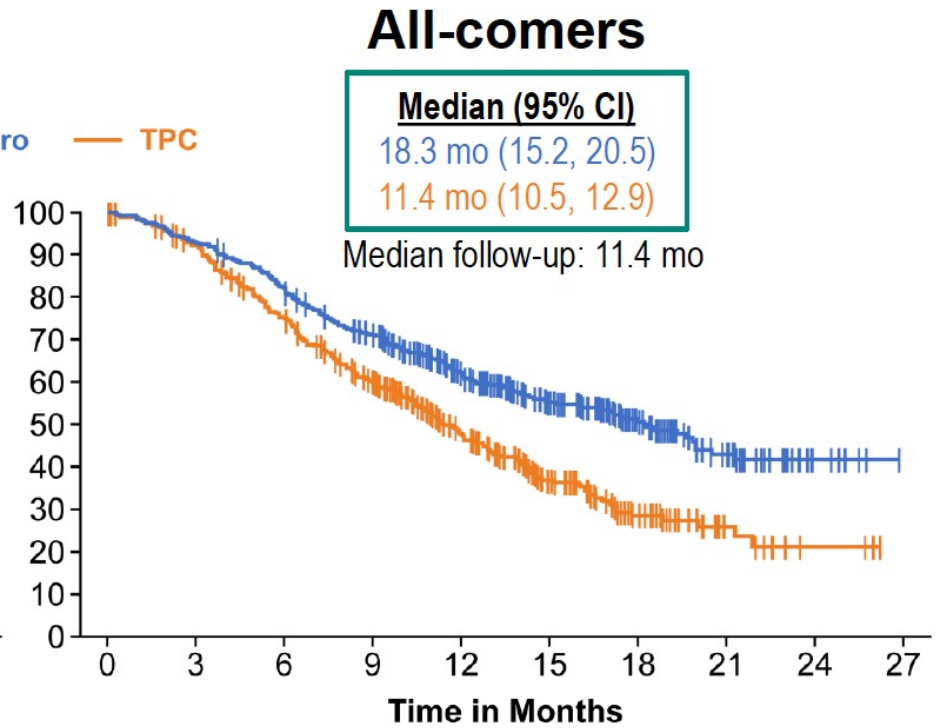
Study 309/KEYNOTE-775: Overall Survival



No. at risk

346	322	285	232	160	109	62	28	5	0
351	319	262	201	120	70	33	11	3	0

	Events	HR (95% CI)	P-value
LEN + pembro	165	0.68 (0.56, 0.84)	0.0001
TPC	203		



No. at risk

411	383	337	282	198	136	81	40	7	0
416	373	300	228	138	80	40	11	3	0

	Events	HR (95% CI)	P-value
LEN + pembro	188	0.62 (0.51, 0.75)	< 0.0001
TPC	245		

Anti-PD-1/PD-L1 Antibodies in Cervical Cancer

Phase III Trial of Cemiplimab Monotherapy in Advanced Cervical Cancer Stopped Early for Positive Result on Overall Survival

Press Release – March 15, 2021

“Regeneron Pharmaceuticals, Inc. and Sanofi today announced positive results demonstrating an overall survival (OS) benefit from the Phase 3 trial investigating the PD-1 inhibitor cemiplimab monotherapy compared to chemotherapy, in patients previously treated with chemotherapy whose cervical cancer is recurrent or metastatic. The trial will be stopped early based on a unanimous recommendation by the Independent Data Monitoring Committee (IDMC), and the data will form the basis of regulatory submissions in 2021 ...

“This is the largest Phase 3 randomized clinical trial in advanced cervical cancer and included women (median age: 51 years) with either squamous cell carcinoma or adenocarcinoma. Patients were randomized to receive cemiplimab monotherapy (350 mg every 3 weeks) or an investigator's choice of commonly used chemotherapy (pemetrexed, vinorelbine, topotecan, irinotecan or gemcitabine). Compared to chemotherapy, patients receiving cemiplimab experienced: Total population: 31% reduced risk of death; Squamous cell carcinoma: 27% reduced risk of death; Adenocarcinoma: 44% reduced risk of death. The primary endpoint for the trial was OS, analyzed first among patients with squamous cell carcinoma, then in the total population...

“Detailed results will be presented at an upcoming medical meeting.”

ESMO VIRTUAL PLENARY

12 & 13 May 2021



Krishnansu Tewari

ESMO VIRTUAL PLENARY



EMPOWER-CERVICAL 1/GOG-3016/ENGOT-CX9: RESULTS OF PHASE 3 TRIAL OF CEMIPIMAB VS INVESTIGATOR'S CHOICE (IC) CHEMOTHERAPY (CHEMO) IN RECURRENT/METASTATIC (R/M) CERVICAL CARCINOMA

Krishnansu S Tewari,* Bradley J Monk,* Ignace Vergote, Austin Miller, Andreia Cristina de Melo, Hee Seung Kim, Yong Man Kim, Alla Lisyanskaya, Vanessa Samouëlian, Domenica Lorusso, Fernanda Damian, Chih-Long Chang, Evgeniy A Gotovkin, Shunji Takahashi, Daniella Ramone, Joanna Pikiel, Beata Maćkowiak-Matejczyk, Eva Maria Guerra, Nicoletta Colombo, Yulia Makarova, Jingjin Li, Shaheda Jamil, Vladimir Jankovic, Chieh-I Chen, Frank Seebach, David M Weinreich, George D Yancopoulos, Israel Lowy, Melissa Mathias, Matthew G Fury, and Ana Oaknin

12 May 2021



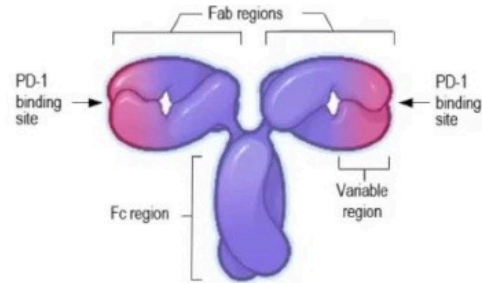
*Contributed equally to this presentation.

This study (NCT03257267) was sponsored by Regeneron Pharmaceuticals, Inc. and Sanofi.

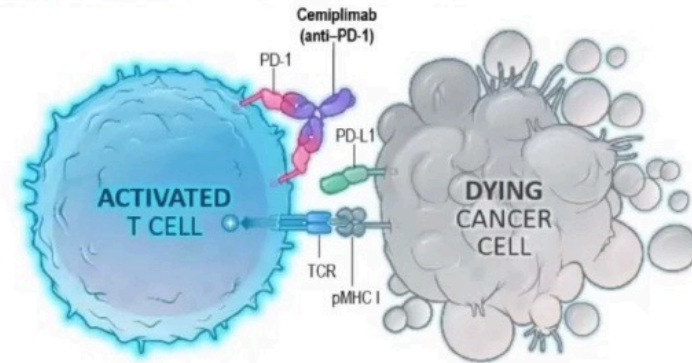


CEMIPLIMAB

Cemiplimab Molecular Structure



Cemiplimab Mechanism of Action



- ♦ High-affinity, human, hinge-stabilised IgG4 monoclonal antibody to the PD-1 receptor¹
- ♦ Phase 1 R/M cervical cancer (n=23; includes Dose Escalation + Expansion Cohorts)²
 - ♦ Safety profile similar to that of other PD-1 inhibitors²
 - ♦ 17% ORR²

Ig, immunoglobulin; Fc, fragment crystallizable; ORR, objective response rate; PD-1, programmed cell death-1; PD-L1, PD-ligand 1; pMHC I, peptide-bound major histocompatibility complex I; R/M, recurrent or metastatic; TCR, T-cell receptor.

1. Burova E et al. *Mol Cancer Ther*. 2017;16:861–870. 2. Rischin D et al. *Gynecol Oncol*. 2020;159:322–328.



Krishnansu Tewari

OVERALL SURVIVAL

♦ At second interim analysis (85% of total OS events), IDMC recommended trial be stopped early for efficacy



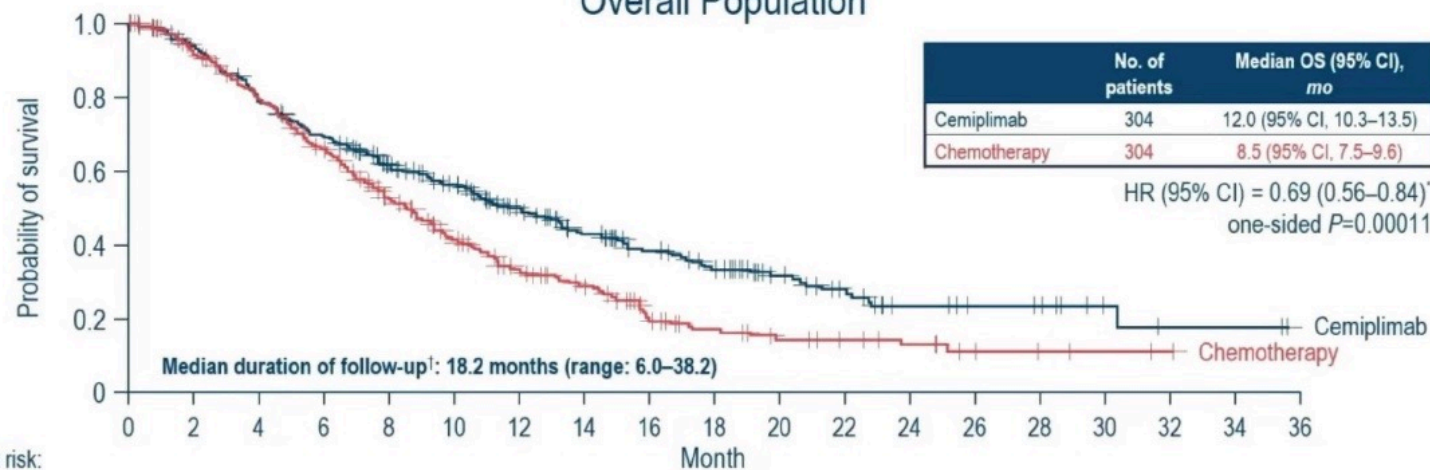
*Stratified by geographic region (North America vs Asia vs ROW) according to interactive web response system. †From randomisation to data cutoff date.
CI, confidence interval; HR, hazard ratio; IDMC, Independent Data Monitoring Committee; mo, month; OS, overall survival; ROW, rest of world; SCC, squamous cell carcinoma.



Krishnansu Tewari

OVERALL SURVIVAL

Overall Population



No. at risk:	0	2	4	6	8	10	12	14	16	18	20	22	24	26	28	30	32	34	36
Cemiplimab	304	281	236	206	167	139	110	83	65	52	35	26	13	10	9	4	2	2	0
Chemotherapy	304	264	224	183	132	99	70	54	32	22	15	12	9	5	3	2	1	0	0

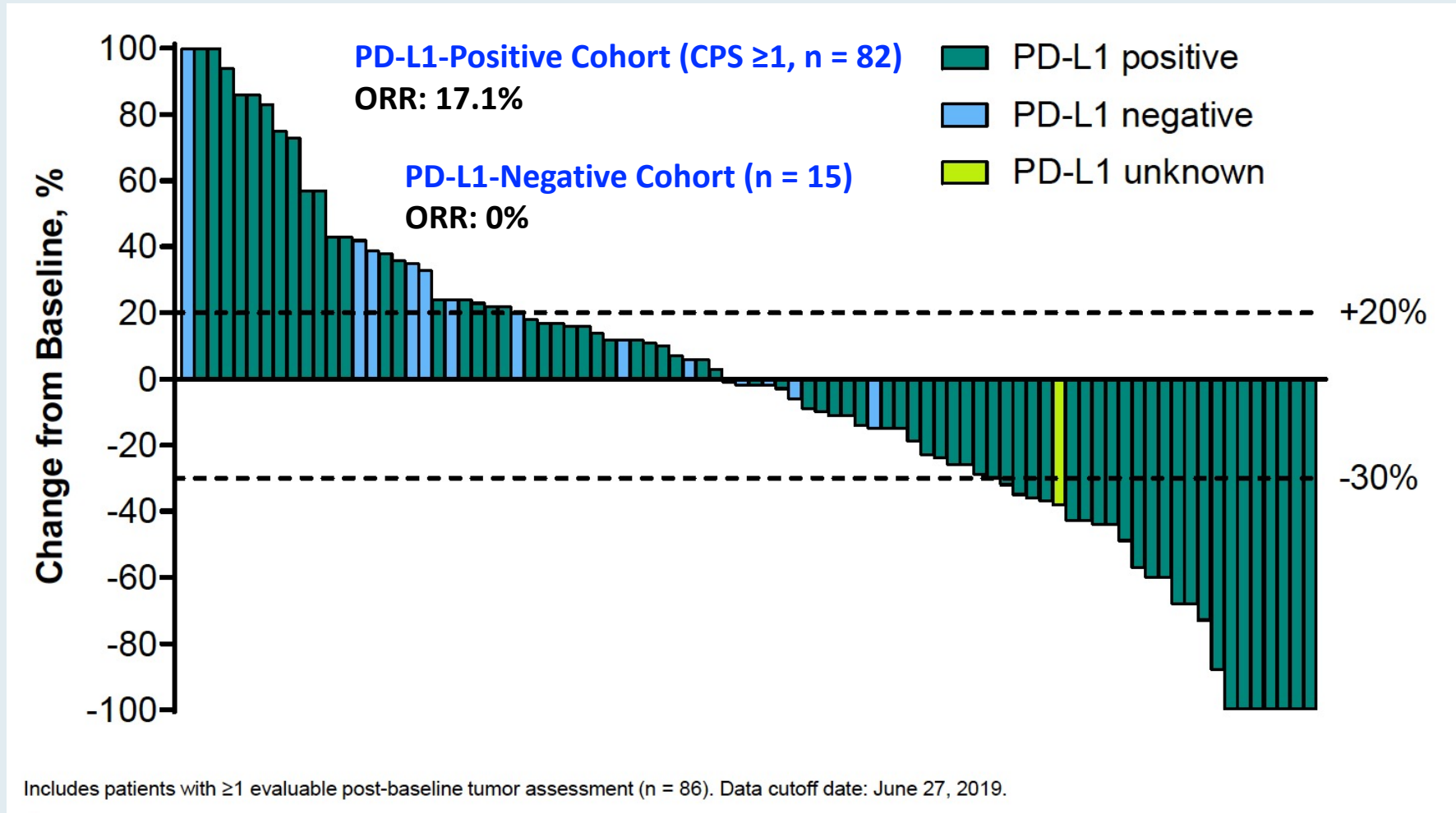
*Stratified by geographic region (North America vs Asia vs ROW) and Histology (SCC vs AC) according to interactive web response system. ¹From randomisation to data cutoff date. AC, adenocarcinoma or adenosquamous carcinoma; CI, confidence interval; HR, hazard ratio; mo, month; OS, overall survival; ROW, rest of world; SCC, squamous cell carcinoma.

Pembrolizumab Treatment of Advanced Cervical Cancer: Updated Results from the Phase II KEYNOTE-158 Study

Chung HC et al.

SGO 2021;Abstract 10440.

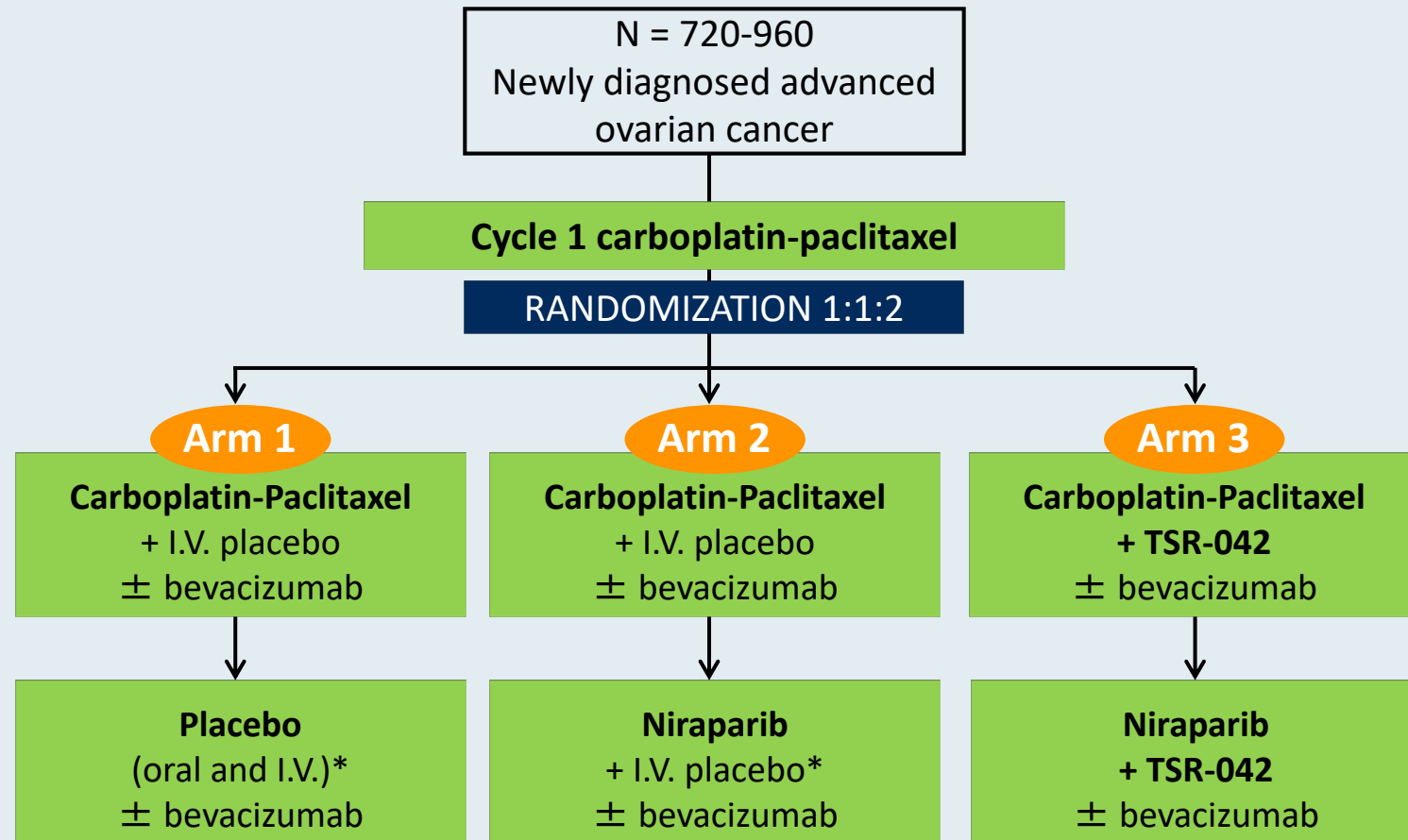
Phase II KEYNOTE-158: Updated Results with Pembrolizumab for Previously Treated Advanced Cervical Cancer



Combined Positive Score (CPS) = PD-L1+ cells (tumor cells, lymphocytes, macrophages) / Total number of tumor cells x 100

Anti-PD-1/PD-L1 Antibodies in Ovarian Cancer

FIRST Phase III Trial of Dostarlimab (TSR-042) in Newly Diagnosed Ovarian Cancer



*I.V. placebo up to 15 months in total

Primary endpoint: PFS
Secondary endpoints: ORR, DOR, DCR, PROs, TFST, TSST, PFS2, OS

Phase II MOONSTONE Study Design

Eligibility

- Completed 1-3 prior lines of therapy for advanced or metastatic ovarian cancer
- Previously treated with platinum-based chemo, taxane and bevacizumab
- Resistant to last administered platinum agent
- No known BRCA 1 or 2 mutation

N=150

Niraparib + Dostarlimab

Primary endpoint: ORR

Secondary endpoints: DOR, PFS, OS, DCR

LEAP-005: Phase II Study of Lenvatinib (Len) plus Pembrolizumab (Pembro) in Patients (Pts) with Previously Treated Advanced Solid Tumours

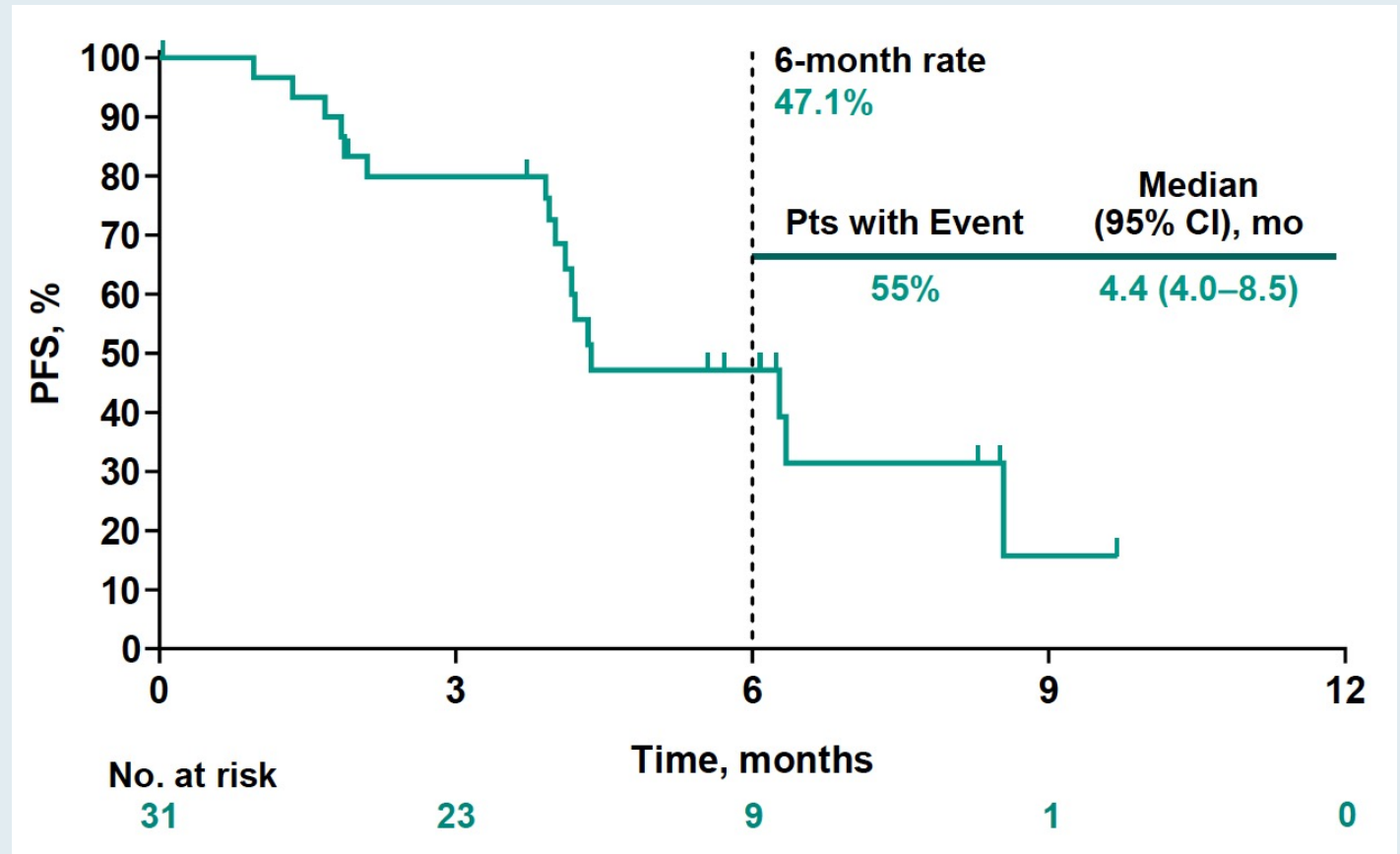
Lwin Z et al.

ESMO 2020;Abstract LBA41.

LEAP-005: Antitumor Activity in Ovarian Cancer Cohort

	4L Ovarian Cohort (n = 31)
ORR	32.3%
CR	3%
PR	29%
DCR	74.2%
DoR (median, mo)	NR

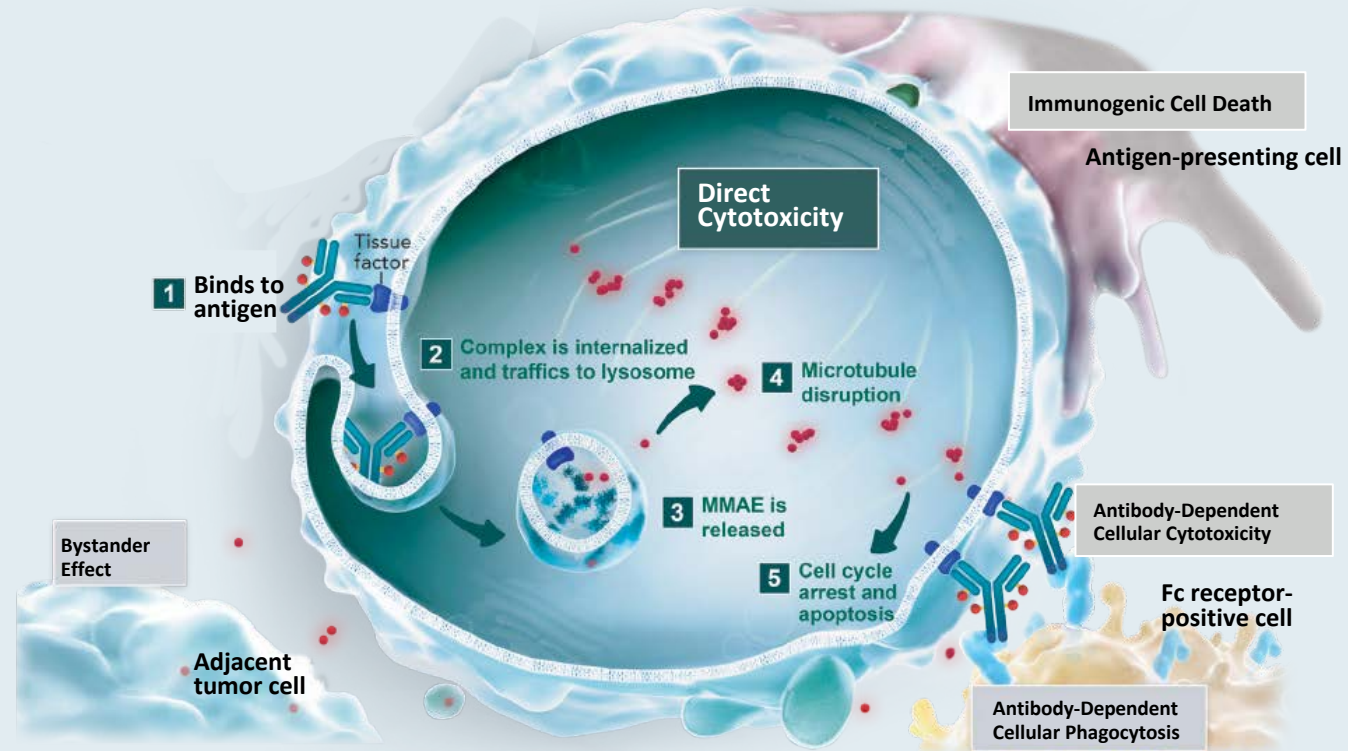
PFS: 4L Ovarian Cohort (n = 31)



Tisotumab Vedotin and Other Novel Agents in Gynecologic Cancers

Mechanism of Action of Tisotumab Vedotin

- Tissue factor (TF) is aberrantly expressed in a broad range of solid tumours, including cervical cancer,^{1,2} and TF expression has been associated with higher tumour stage and grade, higher metastatic burden and poor prognosis²
- TF expression in cervical cancer makes TF a novel target for patients with cervical cancer
- ADC targets TF
 - Monoclonal Antibody targets TF
 - Payload: Microtubule disrupting MMAE
- Allowing for direct cytotoxicity and bystander killing, as well as antibody-dependent cellular cytotoxicity^{3,4}



Tisotumab Vedotin in Previously Treated Recurrent or Metastatic Cervical Cancer: Results from the Phase II innovaTV 204/GOG-3023/ENGOT-cx6 Study

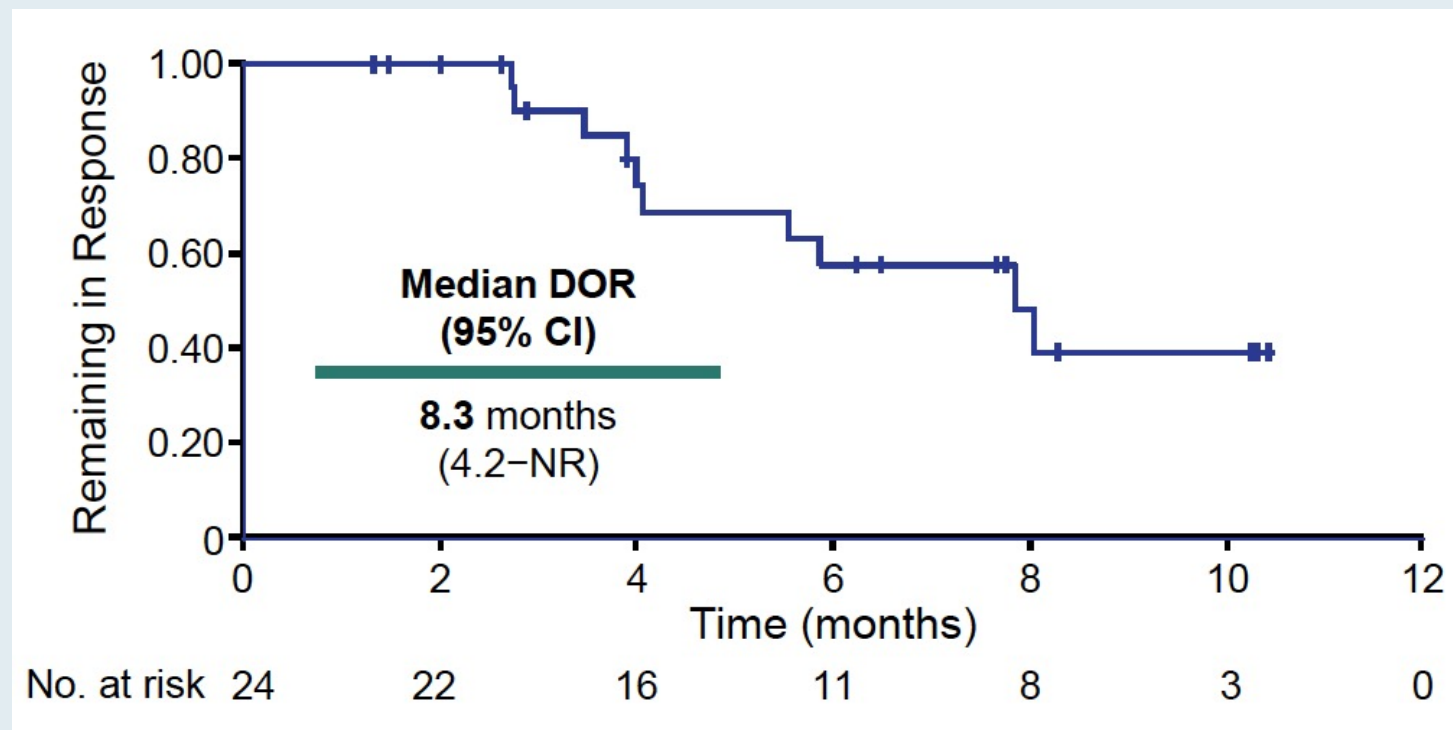
Coleman RL et al.

ESMO 2020;Abstract LBA32.

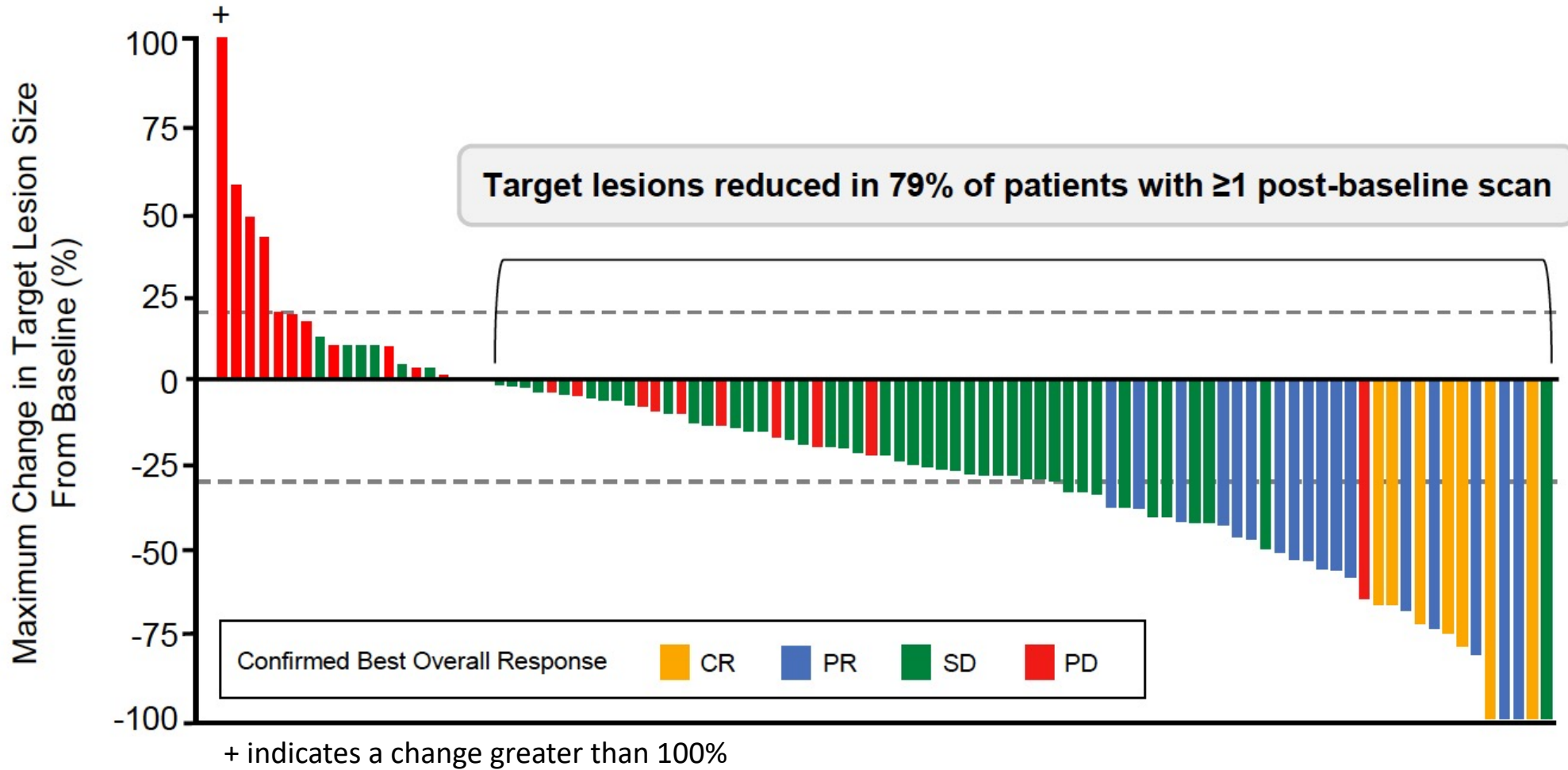
innovaTV 204: Antitumor Activity by IRC Assessment

Clinical Variable	N = 101
Confirmed ORR	24%
CR	7%
PR	17%
SD	49%
PD	24%
Not evaluable	4%

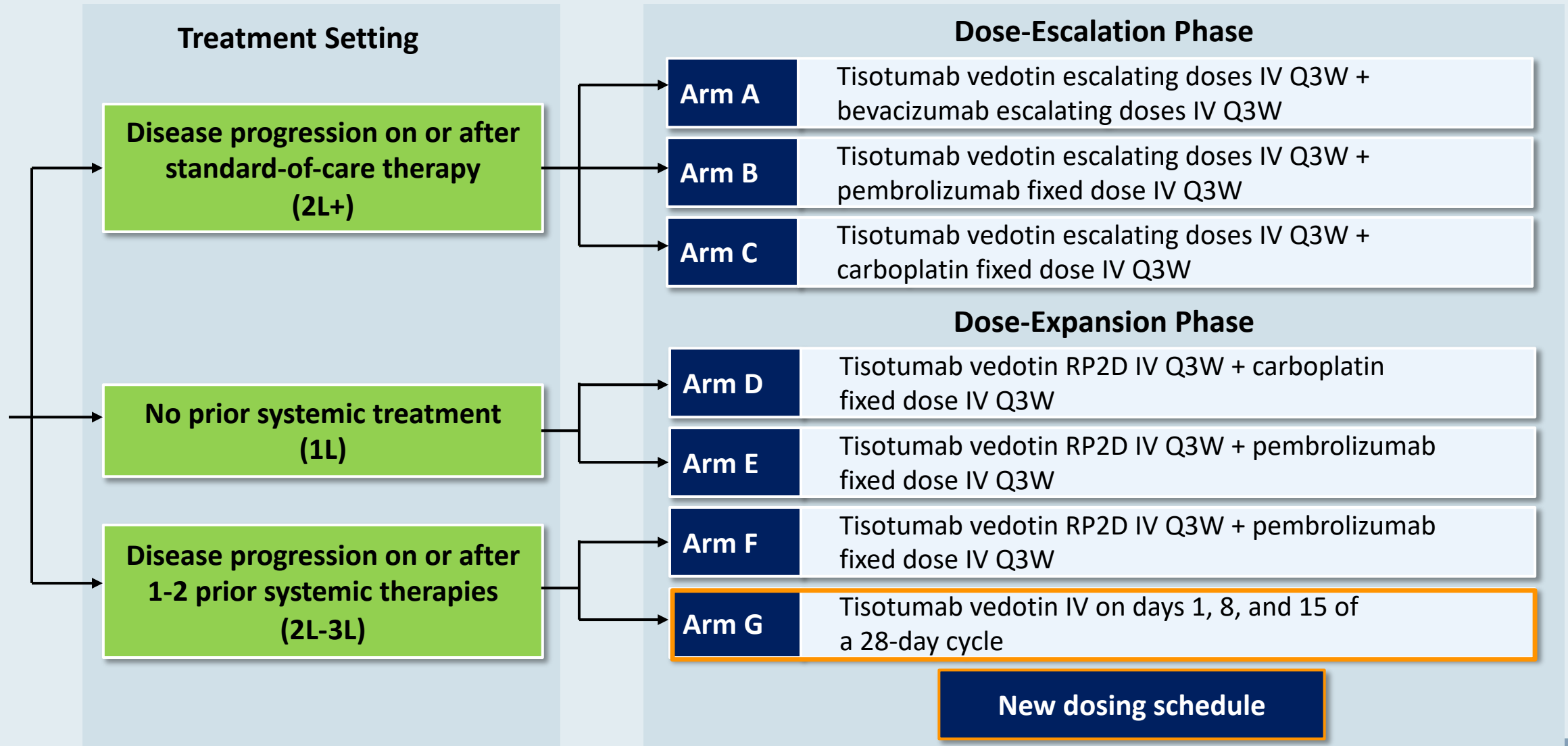
Duration of Response



innovaTV 204: Maximum Change in Target Lesion Size by IRC Assessment



innovaTV 205 (GOG 3024): Recurrent or Metastatic Cervical Cancer



Meet The Professor with Dr Armstrong

MODULE 1: Cases from the Practice of Dr Shannon Westin

- A 70-year-old woman with ER/PR-positive, MSI-high endometrioid adenocarcinoma
- A 48-year-old woman with MSS, HER2-positive uterine serous carcinoma
- A 42-year-old woman with PD-L1-positive, metastatic cervical cancer

MODULE 2: Beyond the Guidelines – Clinical Investigator Approaches to Common Clinical Scenarios

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Anti-PD-1/PD-L1 Checkpoint Inhibitors in Endometrial Cancer

Research

JAMA Oncol 2020;6(11):1766-72

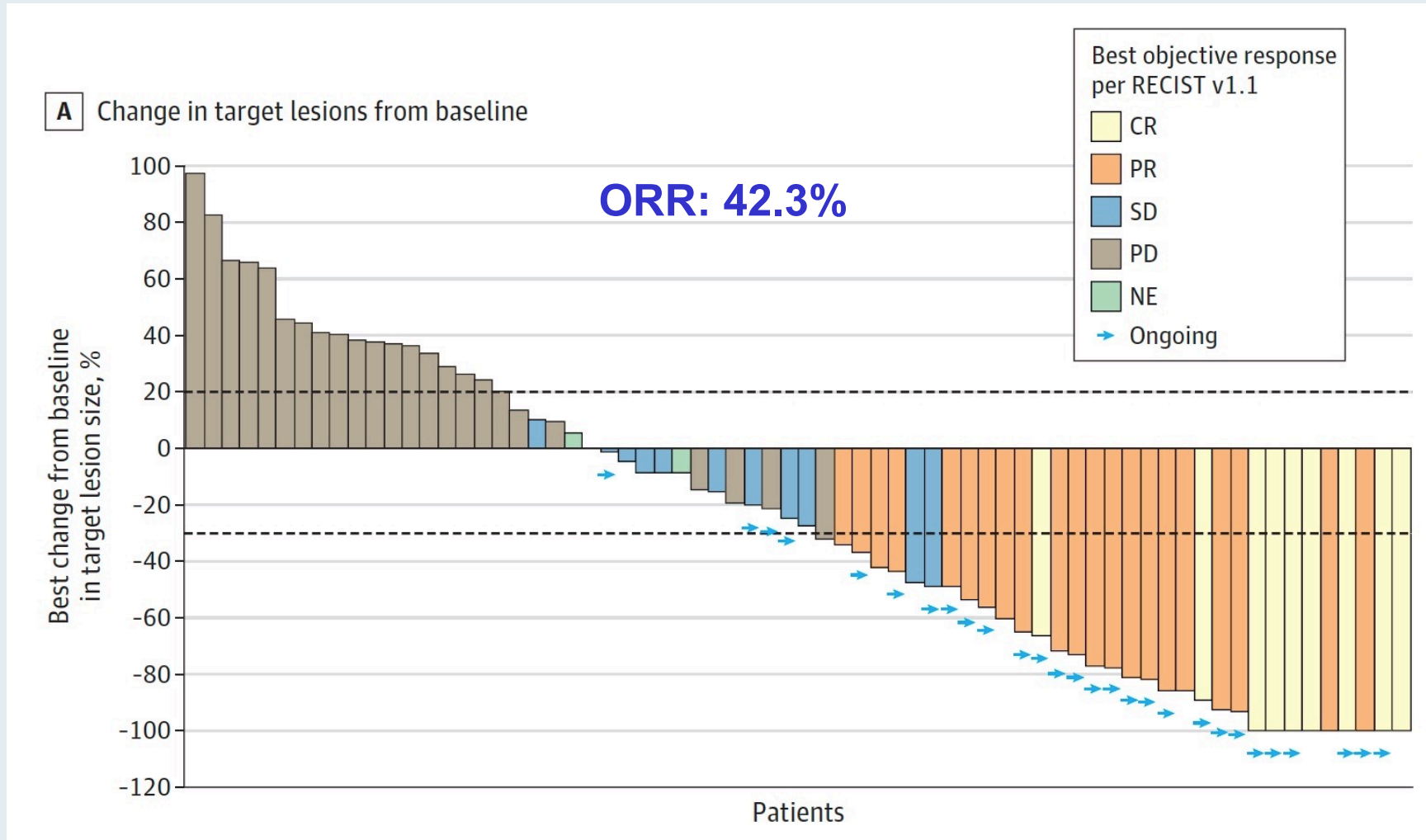
JAMA Oncology | **Original Investigation**

Clinical Activity and Safety of the Anti-Programmed Death 1 Monoclonal Antibody Dostarlimab for Patients With Recurrent or Advanced Mismatch Repair-Deficient Endometrial Cancer

A Nonrandomized Phase 1 Clinical Trial

Ana Oaknin, MD, PhD; Anna V. Tinker, MD; Lucy Gilbert, MD; Vanessa Samouëlian, MD; Cara Mathews, MD; Jubilee Brown, MD; Maria-Pilar Barretina-Ginesta, MD; Victor Moreno, MD; Adriano Gravina, MD; Cyril Abdeddaim, MD; Susana Banerjee, MD; Wei Guo, PhD; Hadi Danaee, ScD; Ellie Im, MD; Renaud Sabatier, MD

GARNET: Dostarlimab for Recurrent or Advanced dMMR Endometrial Cancer — Best Percentage Change in Lesion Size

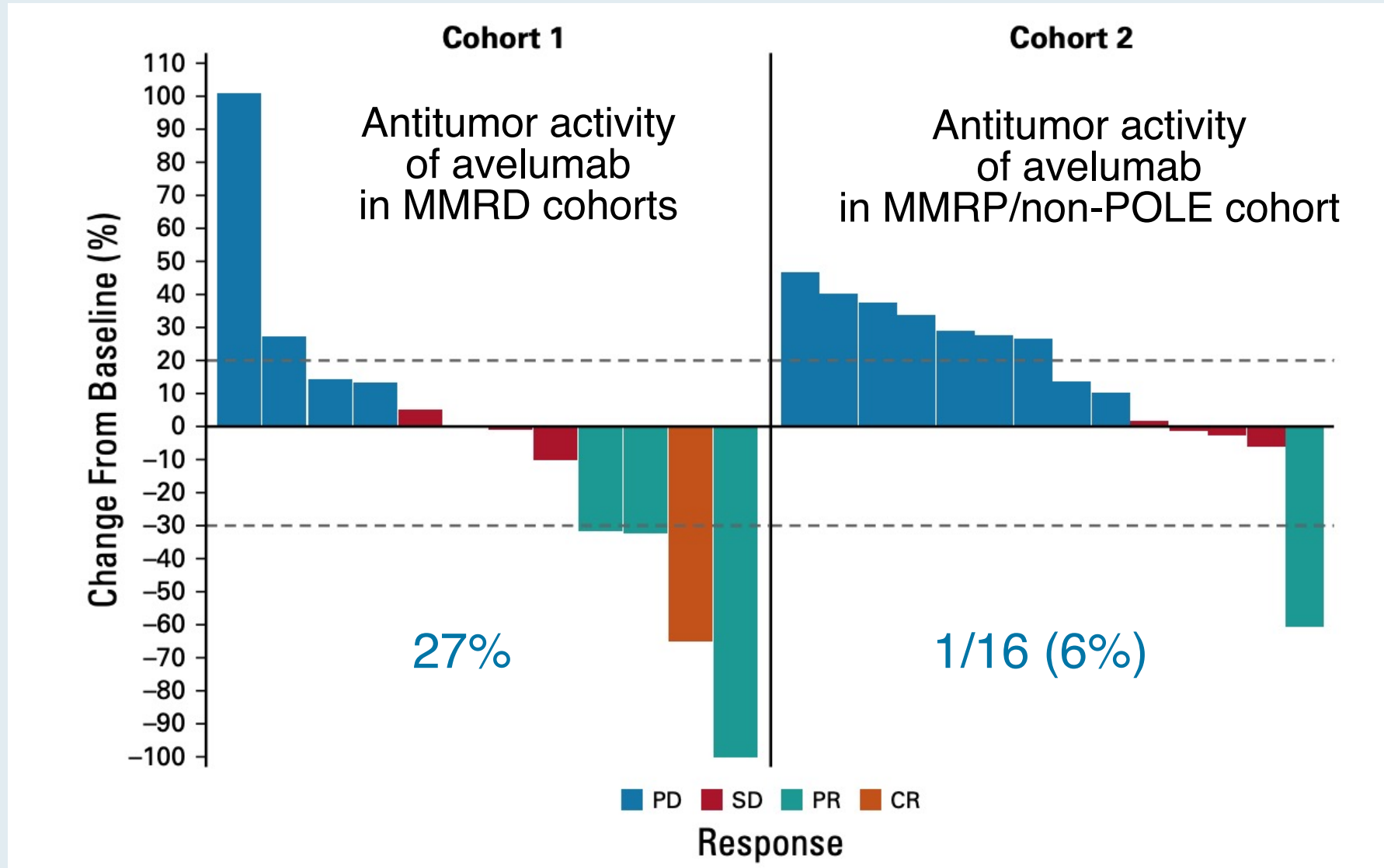


Phase II Study of Avelumab in Patients With Mismatch Repair Deficient and Mismatch Repair Proficient Recurrent/Persistent Endometrial Cancer

Panagiotis A. Konstantinopoulos, MD, PhD¹; Weixiu Luo, MS¹; Joyce F. Liu, MD¹; Doga C. Gulhan, PhD²; Carolyn Krasner, MD¹; Jeffrey J. Ishizuka, MD, DPhil¹; Allison A. Gockley, MD³; Mary Buss, MD, MPH⁴; Whitfield B. Growdon, MD⁵; Heather Crowe⁵; Susana Campos, MD, MPH¹; Neal I. Lindeman, MD³; Sarah Hill, MD, PhD³; Elizabeth Stover, MD, PhD¹; Susan Schumer, MD¹; Alexi A. Wright, MD, MPH¹; Jennifer Curtis, MS¹; Roxanne Quinn¹; Christin Whalen, RN¹; Kathryn P. Gray, PhD¹; Richard T. Penson, MD⁵; Stephen A. Cannistra, MD⁴; Gini F. Fleming, MD⁶; and Ursula A. Matulonis, MD¹

J Clin Oncol 2019;37(30):2786-94

Objective Response Rate: Avelumab

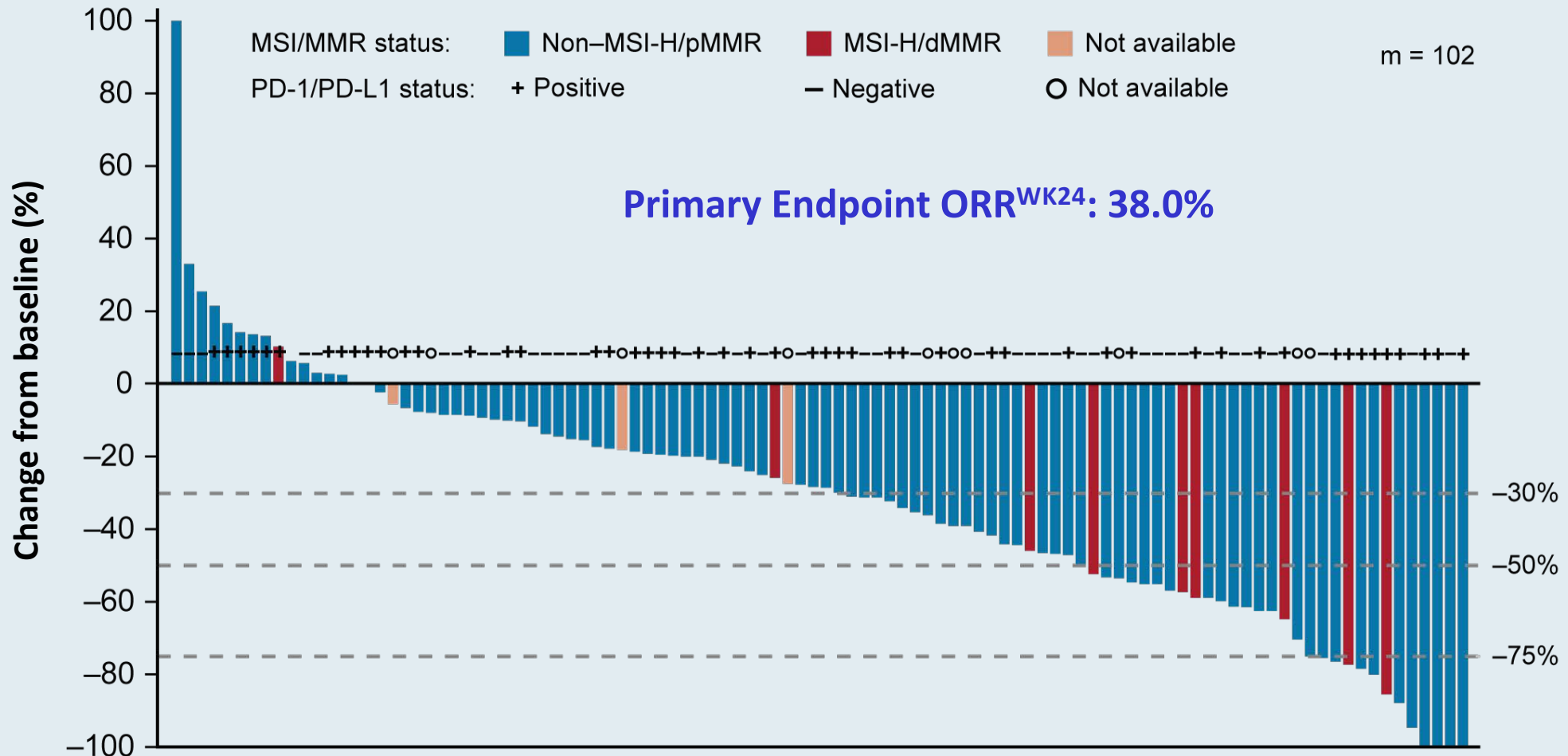


Lenvatinib Plus Pembrolizumab in Patients With Advanced Endometrial Cancer

Vicky Makker, MD¹; Matthew H. Taylor, MD²; Carol Aghajanian, MD¹; Ana Oaknin, MD, PhD³; James Mier, MD⁴; Allen L. Cohn, MD⁵; Margarita Romeo, MD, PhD⁶; Raquel Bratos, MD⁷; Marcia S. Brose, MD, PhD⁸; Christopher DiSimone, MD⁹; Mark Messing, MD¹⁰; Daniel E. Stepan, MD¹¹; Corina E. Dutcus, MD¹²; Jane Wu, PhD¹²; Emmett V. Schmidt, MD, PhD¹³; Robert Orlowski, MD¹³; Pallavi Sachdev, PhD¹²; Robert Shumaker, PhD¹¹; and Antonio Casado Herraes, MD, PhD¹⁴

J Clin Oncol 2020;38(26):2981-92

KEYNOTE-146: Pembrolizumab/Lenvatinib in Advanced Endometrial Cancer That Is Not MSI High or dMMR After Disease Progression on Prior Systemic Therapy

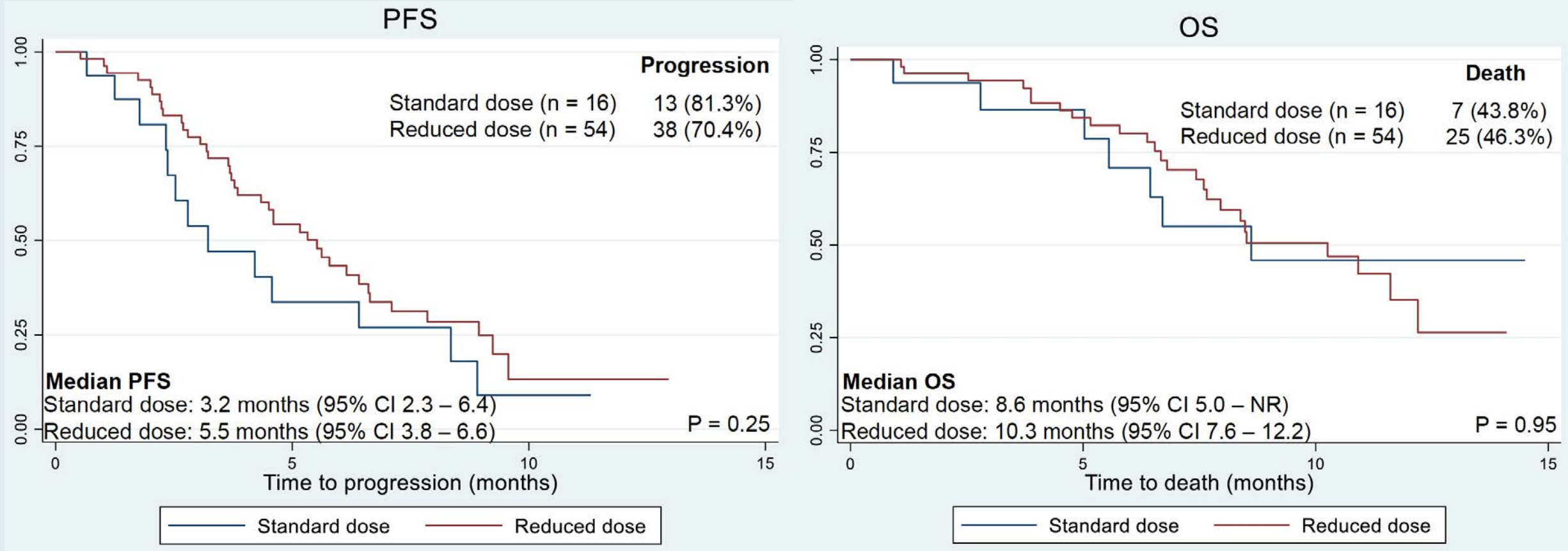


The Use of Pembrolizumab and Lenvatinib Combination Therapy in Endometrial Cancer: An Examination of Toxicity and Treatment Efficacy in Clinical Practice

How JA et al.

SGO 2021;Abstract 10775.

Retrospective Analysis of Reduced-Dose Lenvatinib (<20 mg) with Pembrolizumab at MD Anderson Cancer Center



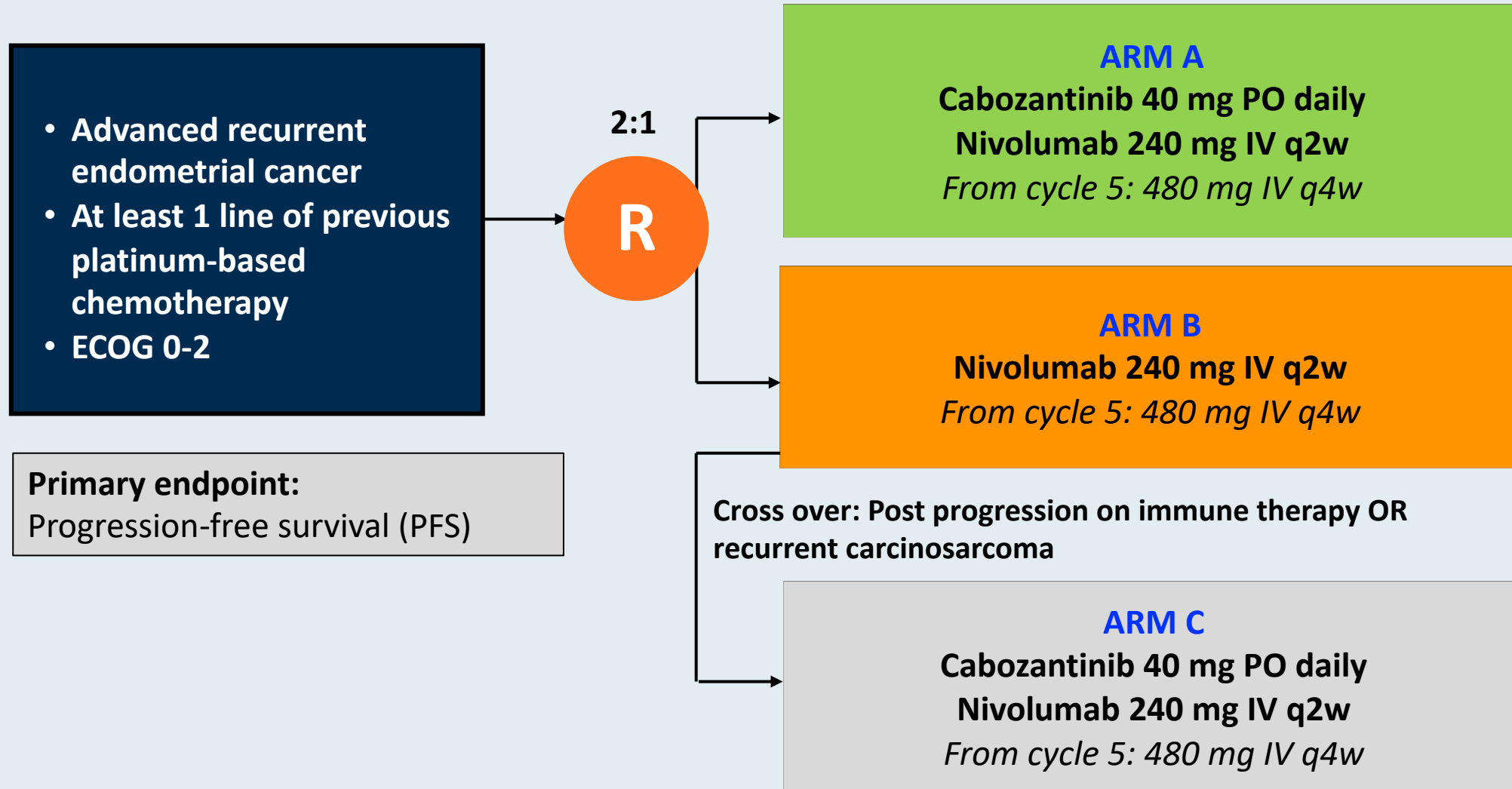
- Reduced starting dose of lenvatinib was associated with longer time to treatment toxicity and fewer dose de-escalations.
- “Published studies and these results may support using lenvatinib at a starting dose of 14 mg daily in clinical practice.”

NCI 10104: A Randomized Phase 2 Study of Cabozantinib in Combination with Nivolumab in Advanced, Recurrent Metastatic Endometrial Cancer

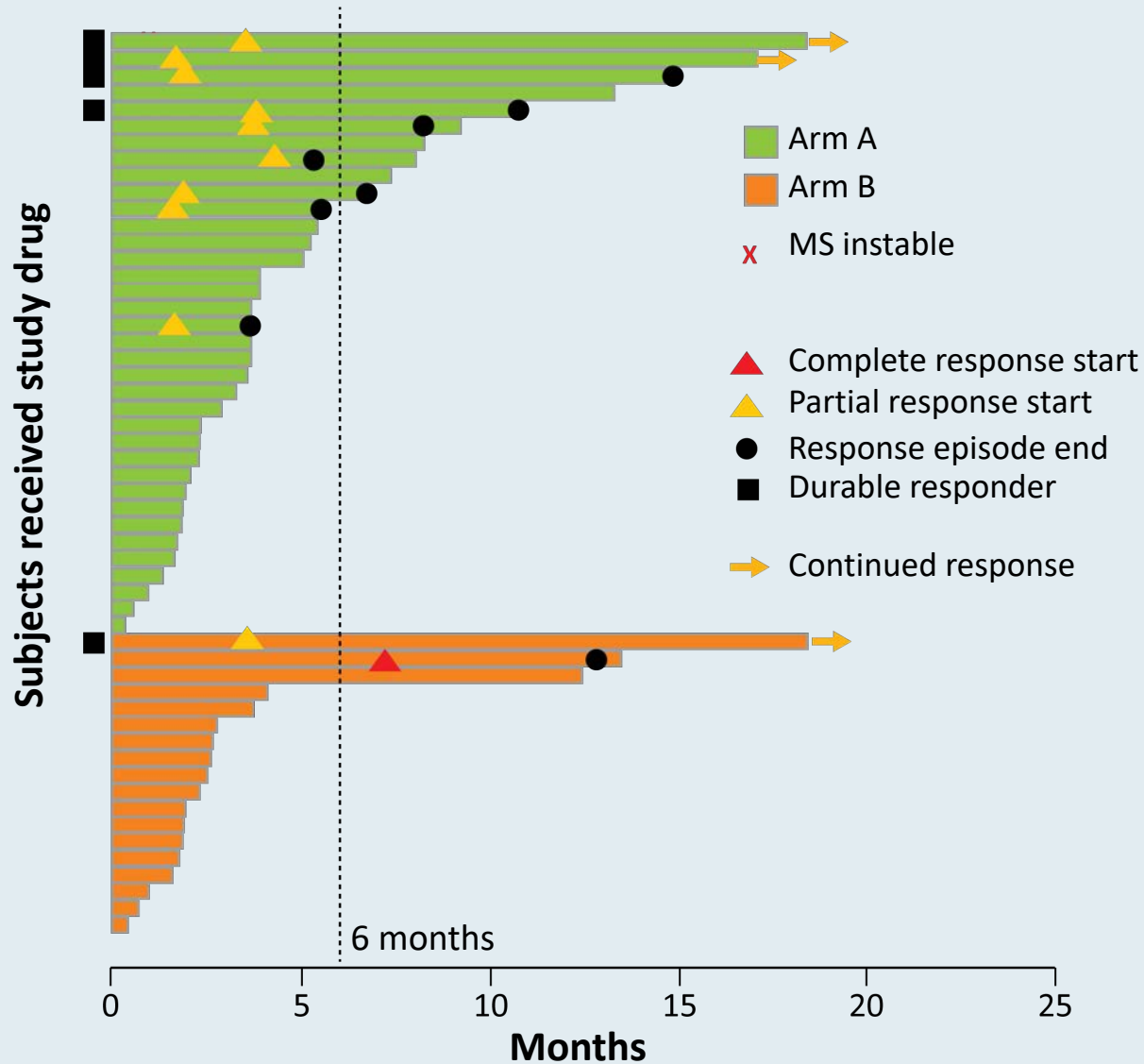
Lheureux S et al.

ASCO 2020;Abstract 6010.

NCI 10104 Phase II Study Schema



NCI 10104: Response Rate and Duration and Survival Analyses



	Arm A Cabo/nivolumab (n = 36)	Arm B Nivolumab (n = 18)
ORR	25%	11%
SD as best response	44%	11%
CBR	69%	22%
Median PFS*	5.3 mo	1.9 mo
Median OS [†]	13.0 mo	7.9 mo

* HR: 0.59, significant

[†] Immature, 55% events

Select Ongoing Phase III Immune Checkpoint Inhibitor Combination Studies

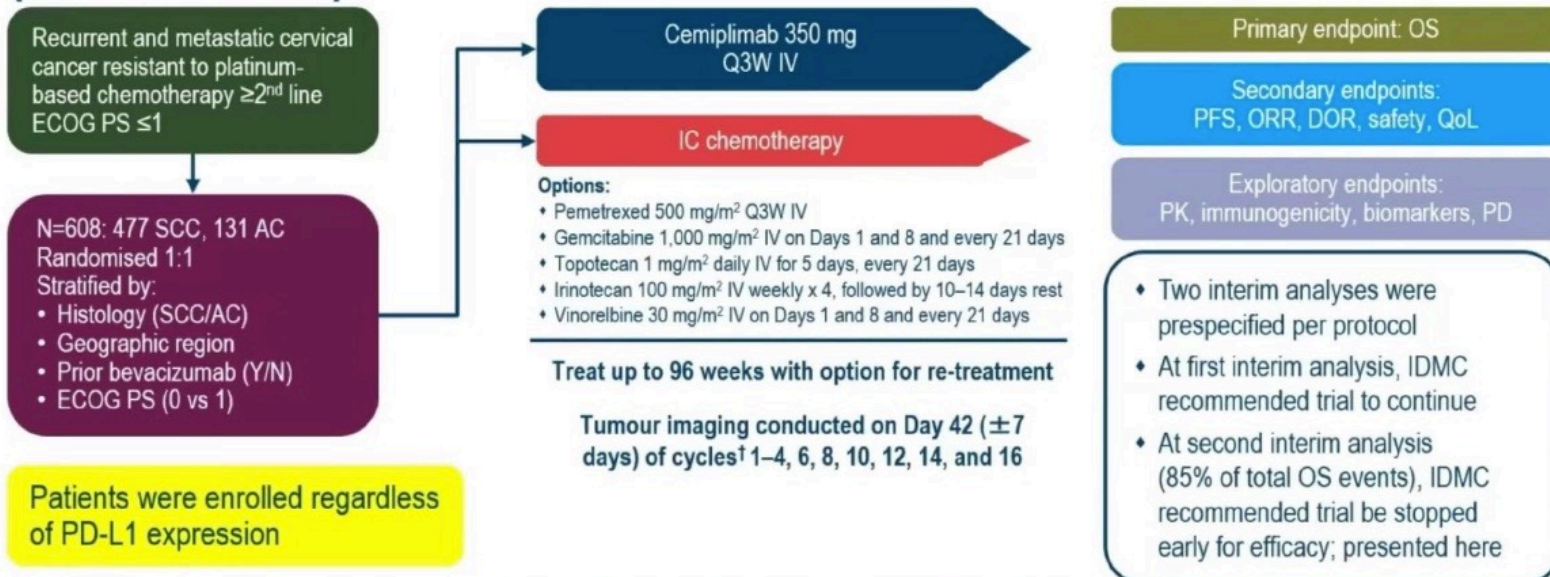
Trial	N	Eligibility	Randomization
KEYNOTE-775	780	<ul style="list-style-type: none"> Advanced, recurrent or metastatic EC PD after 1 prior platinum-based chemo regimen 	<ul style="list-style-type: none"> Pembro + lenvatinib Paclitaxel + carboplatin
LEAP-001	720	<ul style="list-style-type: none"> Stage III, IV or recurrent EC May have received 1 prior line of platinum-based adjuvant or neoadjuvant chemo 	<ul style="list-style-type: none"> Pembro + lenvatinib Paclitaxel + carboplatin
NRG-GY018	810	<ul style="list-style-type: none"> Stage III, IVA or IVB or recurrent EC No prior chemo for EC, except adjuvant 	<ul style="list-style-type: none"> Pembro + paclitaxel + carboplatin → Pembro Placebo + paclitaxel + carboplatin → Placebo
RUBY	470	<ul style="list-style-type: none"> Stage III, IV or first recurrent EC 	<ul style="list-style-type: none"> Dostarlimab + paclitaxel + carboplatin Placebo + paclitaxel + carboplatin
AtTEnd	550	<ul style="list-style-type: none"> Newly dx with residual disease after surgery, OR inoperable Stage III-IV naïve to first-line systemic treatment 	<ul style="list-style-type: none"> Atezolizumab + paclitaxel + carboplatin Placebo + paclitaxel + carboplatin

Anti-PD-1/PD-L1 Antibodies in Cervical Cancer



Krishnansu Tewari

EMPOWER-CERVICAL 1/GOG-3016/ENGOT-CX9 STUDY DESIGN* (NCT03257267)



*Performed according to ENGOT Model C.^{1†}To account for differences in drug administration schedules, one cycle is defined as 6 weeks.

AC, adenocarcinoma or adenosquamous carcinoma; DOR, duration of response; ECOG PS, Eastern Cooperative Oncology Group performance status; IC, investigator's choice; IDMC, Independent Data Monitoring Committee; IV, intravenously; ORR, objective response rate; OS, overall survival; PD, pharmacodynamics; PD-L1, programmed cell death ligand 1; PFS, progression-free survival; PK, pharmacokinetics; Q3W, every 3 weeks; QoL, quality of life; SCC, squamous cell carcinoma.

1. Vergote I et al. *Int J Gynecol Cancer*. 2019;0:1–4.



Krishnansu Tewari

OVERALL SURVIVAL

AC Population

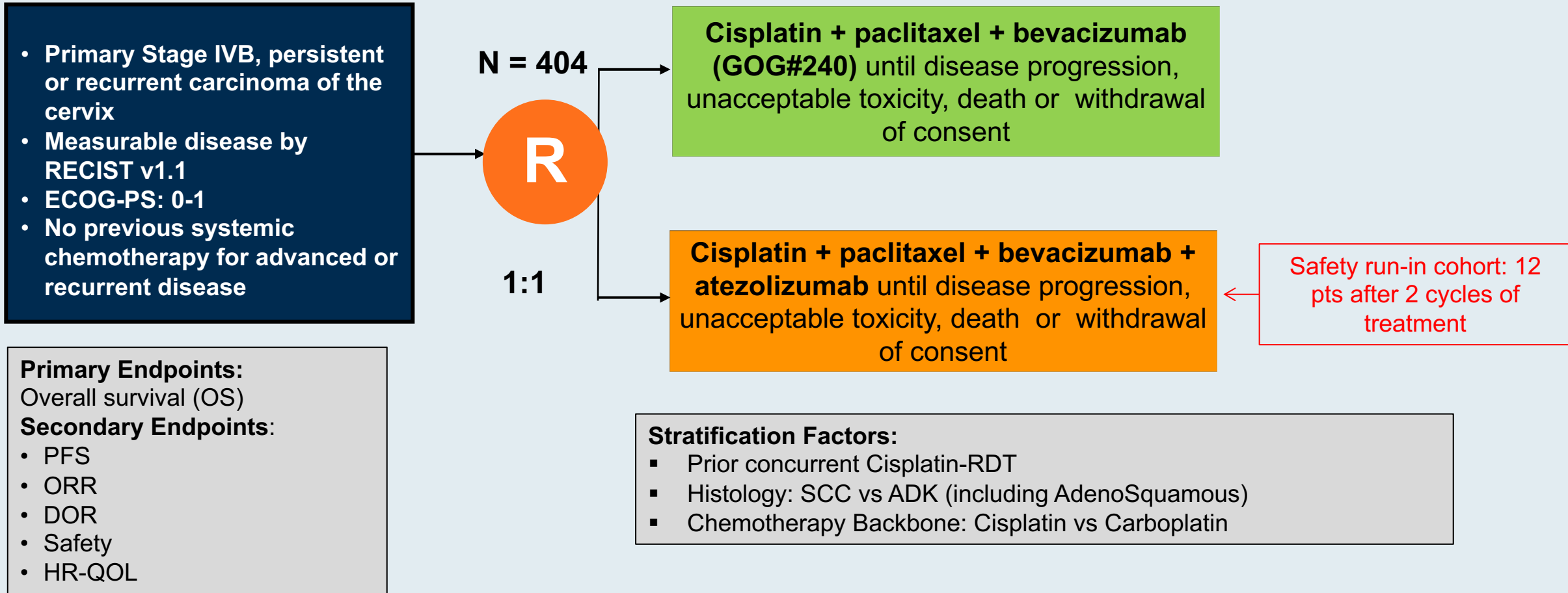


*Stratified by geographic region (North America vs Asia vs ROW) according to interactive web response system. †One-sided nominal P value, not adjusted for multiplicity.

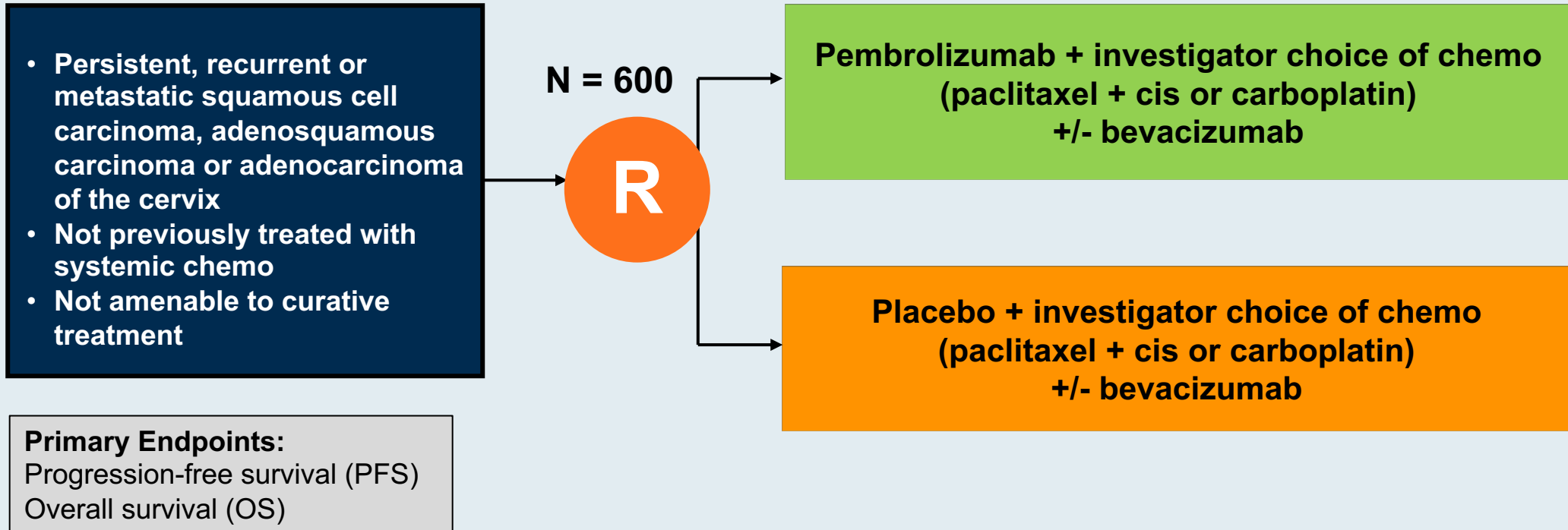
‡From randomisation to data cutoff date.

AC, adenocarcinoma or adenosquamous carcinoma; CI, confidence interval; HR, hazard ratio; mo, month; OS, overall survival; ROW, rest of world; SCC, squamous cell carcinoma.

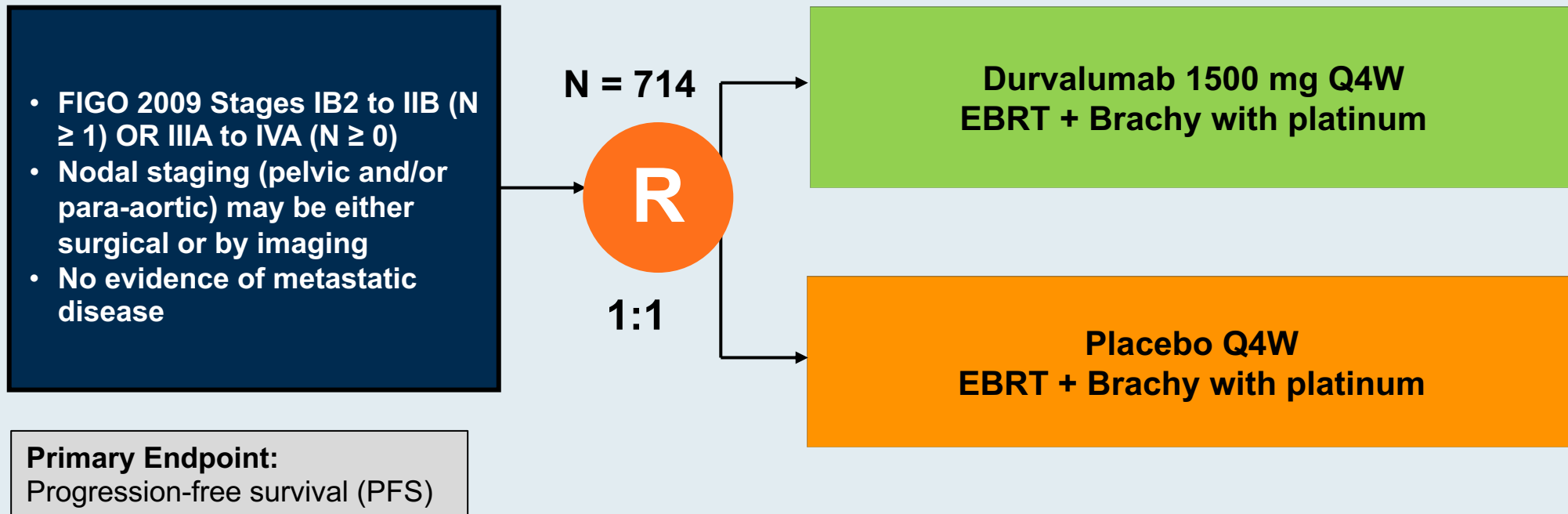
BEATcc Phase III Randomized Front-Line Trial of Atezolizumab



KEYNOTE-826 Phase III Schema



CALLA Phase III Schema



Anti-PD-1/PD-L1 Antibodies in Ovarian Cancer

FDA-Approved Indications for Immunotherapy in Ovarian Cancer

Pembrolizumab: 2017 FDA approval for MSI-high/MMR deficient cancers

- The incidence of germline MMR gene mutations in high grade serous cancers is 1-8%
- MMR deficiency is more common in non-serous ovarian cancer

2020 ASCO ovarian cancer genetics guidelines re MMR testing:

- Women diagnosed with clear cell, endometrioid, or mucinous ovarian cancer should be offered somatic tumor testing for mismatch repair deficiency
- Testing for MMR deficiency may be offered to women diagnosed with other histologic types of epithelial ovarian cancer

Avelumab Alone or in Combination with Pegylated Liposomal Doxorubicin versus Pegylated Liposomal Doxorubicin Alone in Platinum-Resistant or Refractory Epithelial Ovarian Cancer: Primary and Biomarker Analysis of the Phase III JAVELIN Ovarian 200 Trial

Pujade-Lauraine E et al.

SGO 2019;Abstract LBA1.

JAVELIN Ovarian 200: Avelumab Alone or in Combination with Pegylated Liposomal Doxorubicin (PLD) versus PLD Alone in Platinum-Resistant or Refractory OC

	Avelumab (n = 188)		Avelumab + PLD (n = 188)		PLD (n = 190)	
All patients						
Median OS	11.8 mo		15.7 mo		13.1 mo	
	HR: 1.14, <i>p</i> = 0.83		HR: 0.80, <i>p</i> = 0.21		Reference	
Median PFS	1.9 mo		3.7 mo		3.5 mo	
	HR: 1.68, <i>p</i> > 0.99		HR: 0.78, <i>p</i> = 0.03		Reference	
PD-L1 evaluable	PD-L1+ (n = 91)	PD-L1- (n = 62)	PD-L1+ (n = 92)	PD-L1- (n = 58)	PD-L1+ (n = 73)	PD-L1- (n = 66)
Median OS	13.7 mo	10.5 mo	18.4 mo	12.7 mo	13.8 mo	13.1 mo
	HR: 0.80	HR: 1.4	HR: 0.72	HR: 1.1	Ref	Ref
Median PFS	1.9 mo	1.8 mo	3.7 mo	3.9 mo	1.9 mo	3.7 mo
	HR: 1.3	HR: 1.8	HR: 0.59	HR: 0.92	Ref	Ref

Final Results from the KEYNOTE-100 Trial of Pembrolizumab in Patients with Advanced Recurrent Ovarian Cancer

Matulonis UA et al.

ASCO 2020;Abstract 6005.

KEYNOTE-100 Phase II, 2-Cohort Study Schema

Patients (N = 376)

- Recurrent, advanced epithelial ovarian, fallopian tube, or primary peritoneal cancer
- ECOG PS 0 or 1
- Provision of a tumor sample for biomarker analysis

Key exclusion criteria

- Mucinous histology
- No bowel obstruction within 3 months
- No active autoimmune disease
- No active CNS metastases and/or carcinomatous meningitis

Cohort A
1-3 prior lines
PFI or TFI of 3-12 months

Total enrollment: n = 285

↑
Pembrolizumab 200 mg IV q3wk until PD,
prohibitive toxicity, death, or completion of 2 years
↓

Cohort B
4-6 prior lines
PFI or TFI of ≥3 months

Total enrollment: n = 91

PFI = platinum-free interval; TFI = treatment-free interval

KEYNOTE-100: Summary of Efficacy, Including by PD-L1 Status

Endpoint	Cohort A 1-3 prior lines PFI/TFI 3-12 months			Cohort B 4-6 prior lines PFI/TFI ≥3 months			Cohorts A + B All comers		
	All n = 285	CPS ≥1 n = 101	CPS ≥10 n =43	All n = 91	CPS ≥1 n = 49	CPS ≥10 n = 22	All n = 376	CPS ≥1 n = 150	CPS ≥10 n = 65
ORR	8.1%	6.9%	11.6%	9.9%	10.2%	18.2%	8.5%	8.0%	13.8%
DoR	8.3 mo	Not reported	Not reported	23.6 mo	Not reported	Not reported	10.2 mo	Not reported	Not reported
OS	18.7 mo	20.6 mo	21.9 mo	17.6 mo	20.7 mo	24.0 mo	Not reported	Not reported	Not reported

Research

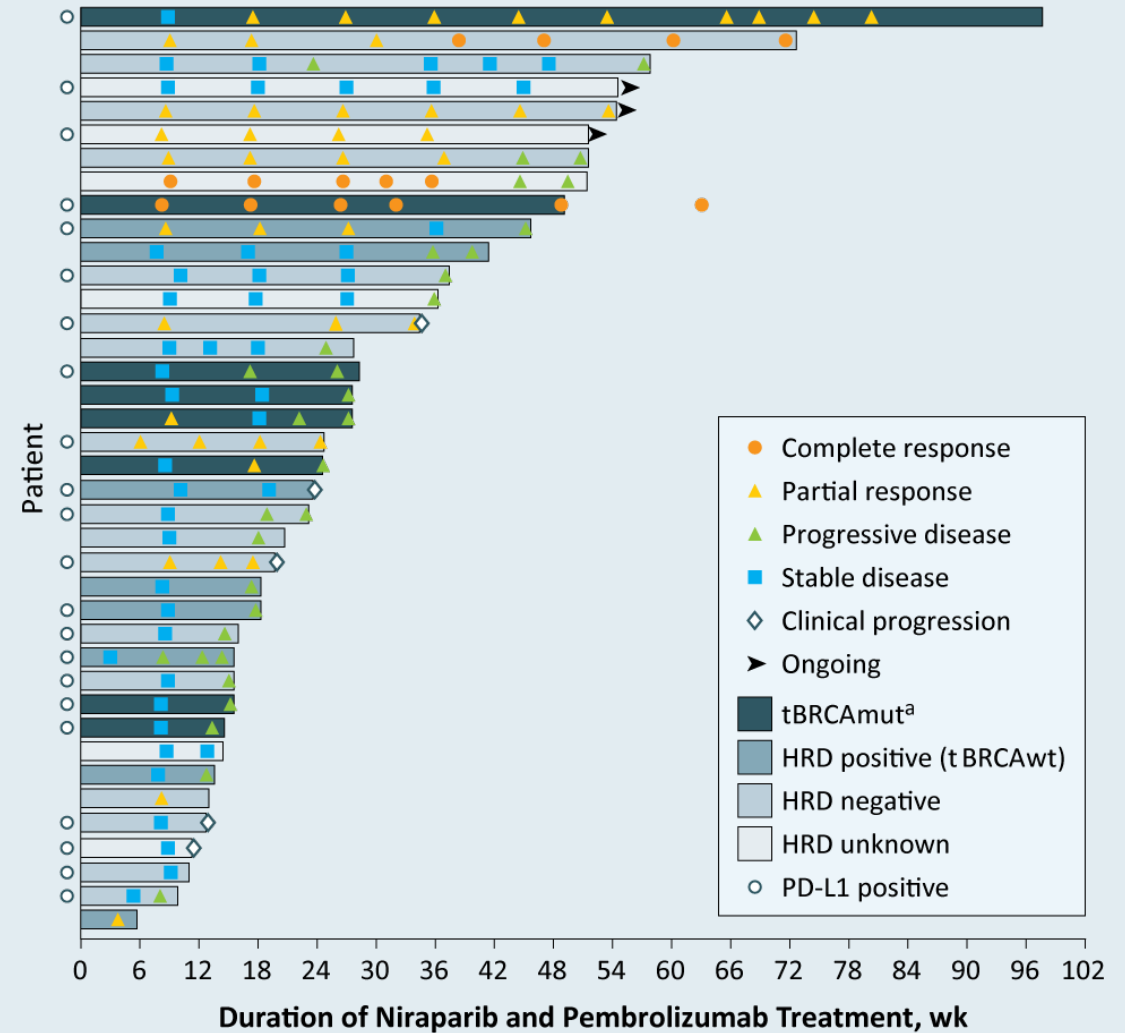
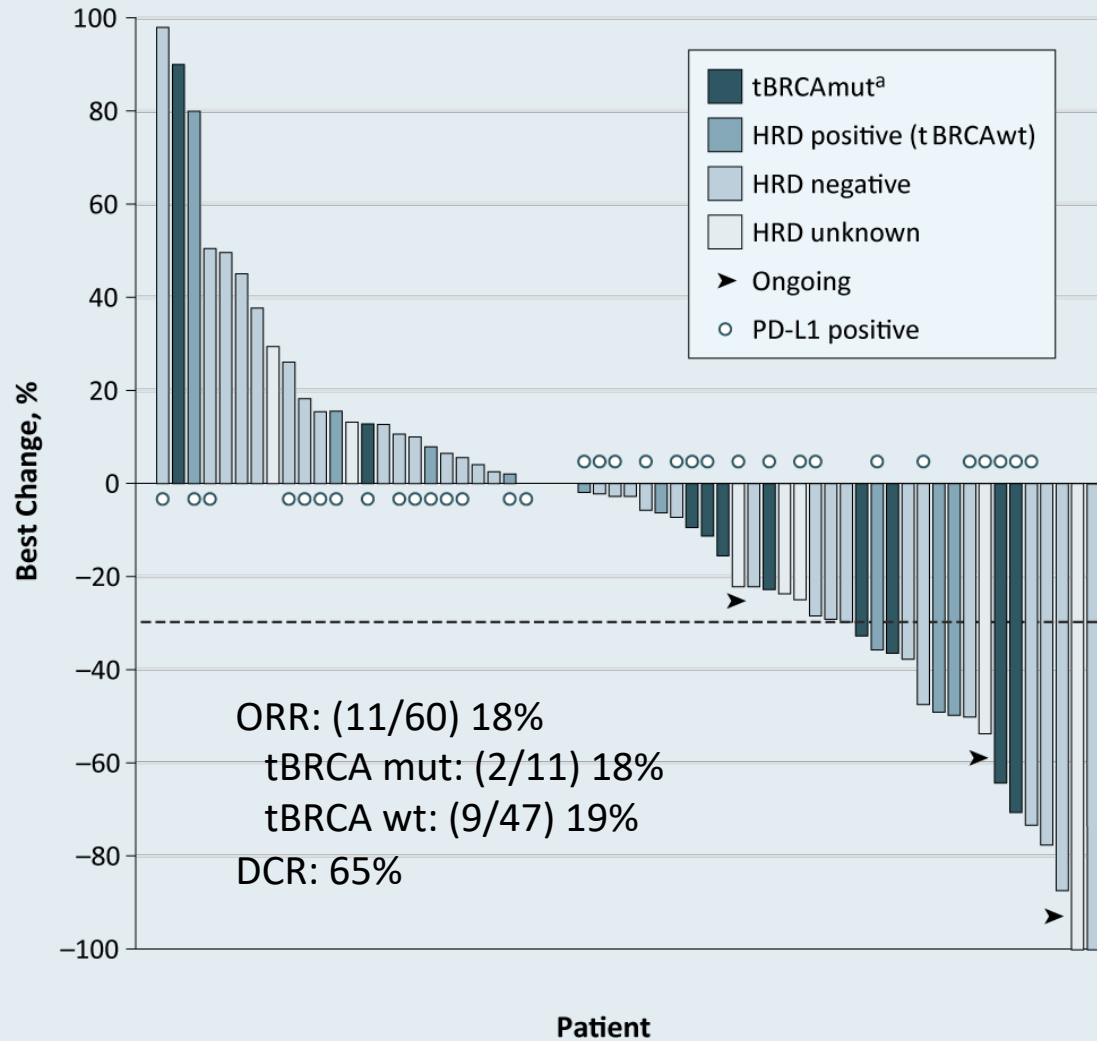
JAMA Oncol 2019;5(8):1141-9

JAMA Oncology | **Original Investigation**

Single-Arm Phases 1 and 2 Trial of Niraparib in Combination With Pembrolizumab in Patients With Recurrent Platinum-Resistant Ovarian Carcinoma

Panagiotis A. Konstantinopoulos, MD, PhD; Steven Waggoner, MD; Gregory A. Vidal, MD; Monica Mita, MD; John W. Moroney, MD; Robert Holloway, MD; Linda Van Le, MD; Jasjit C. Sachdev, MD; Eloise Chapman-Davis, MD; Gerardo Colon-Otero, MD; Richard T. Penson, MD; Ursula A. Matulonis, MD; Young Bae Kim, MD; Kathleen N. Moore, MD; Elizabeth M. Swisher, MD; Anniina Färkkilä, MD; Alan D'Andrea, MD; Erica Stringer-Reasor, MD; Jing Wang, PhD; Nathan Buerstatte, MPH; Sujata Arora, MS; Julie R. Graham, PhD; Dmitri Bobilev, MD; Bruce J. Dezube, MD; Pamela Munster, MD

TOPACIO/KEYNOTE-162: Niraparib and Pembrolizumab in Recurrent Platinum-Resistant Ovarian Cancer



Phase II Study of Olaparib (O) plus Durvalumab (D) and Bevacizumab (B) (MEDIOLA): Initial Results in Patients (pts) with Non-Germline BRCA-Mutated (Non-gBRCAm) Platinum Sensitive Relapsed (PSR) Ovarian Cancer (OC)

Drew Y et al.

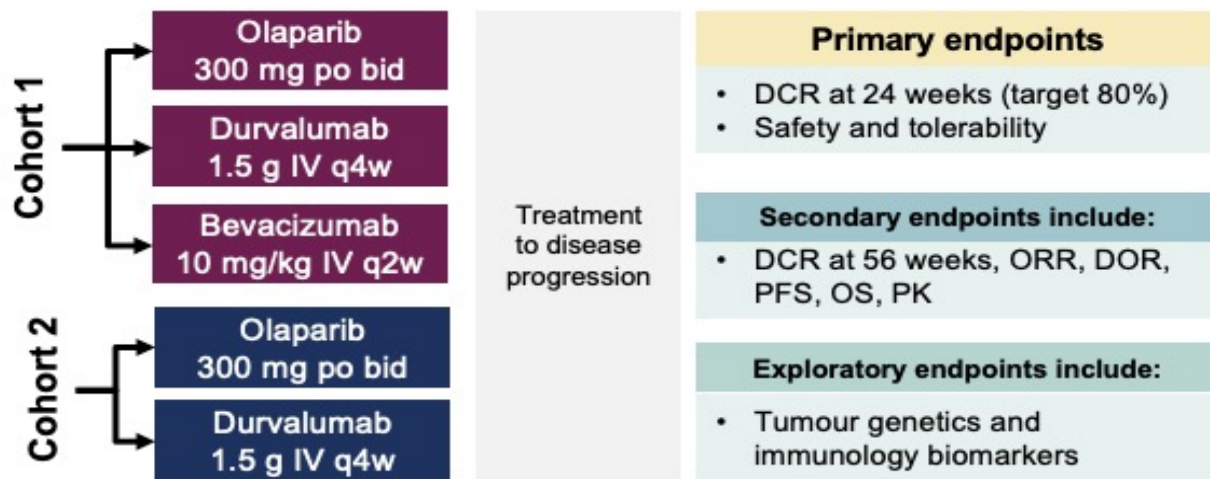
ESMO 2020;Abstract 814MO.

MEDIOLA: gBRCAwt Cohorts

Study Design

Patient population

- gBRCAwt
- PSR ovarian cancer
- ≤2 prior lines of chemotherapy
- PARP inhibitor and IO agent naïve



Sequential enrolment

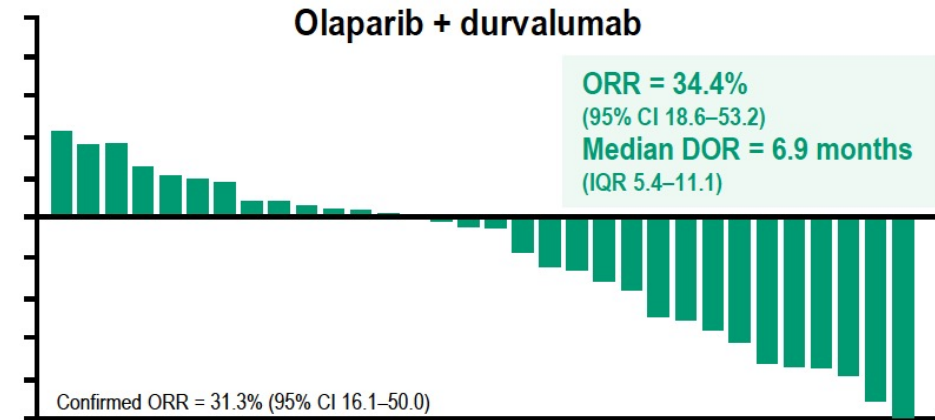
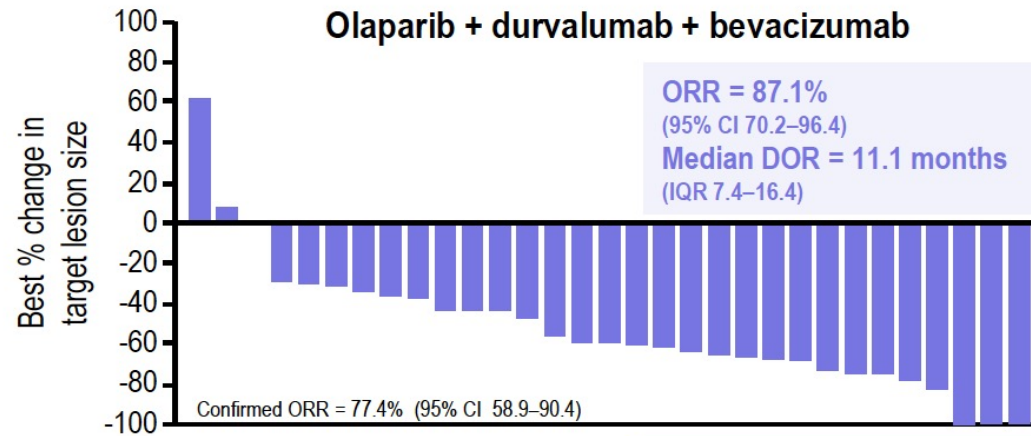
Tumour assessments every 8 weeks

Patient Characteristics

	Olap + durva + bev (N=31)	Olap + durva (N=32)
Median age, years	64.0	68.5
Age group (years), n (%)		
<50	3 (9.7)	4 (12.5)
≥50–<65	14 (45.2)	8 (25.0)
≥65	14 (45.2)	20 (62.5)
Race, n (%)		
White	20 (64.5)	24 (75.0)
Asian	10 (32.3)	3 (9.4)
Other	1 (3.2)	5 (15.6)
Platinum sensitivity, n (%)		
>6–12 months	18 (58.1)	14 (43.8)
>12 months	13 (41.9)	18 (56.3)
Number of prior lines of chemotherapy, n (%)		
1 prior line	20 (64.5)	23 (71.9)
2 prior lines	11 (35.5)	9 (28.1)
Enrolment completed	January 2019	February 2019
Patients on study treatment at DCO, n (%) (13 February 2020)		
Olap; durva; bev	13 (41.9); 13 (41.9); 12 (38.7)	7 (21.9); 6 (18.8); NA

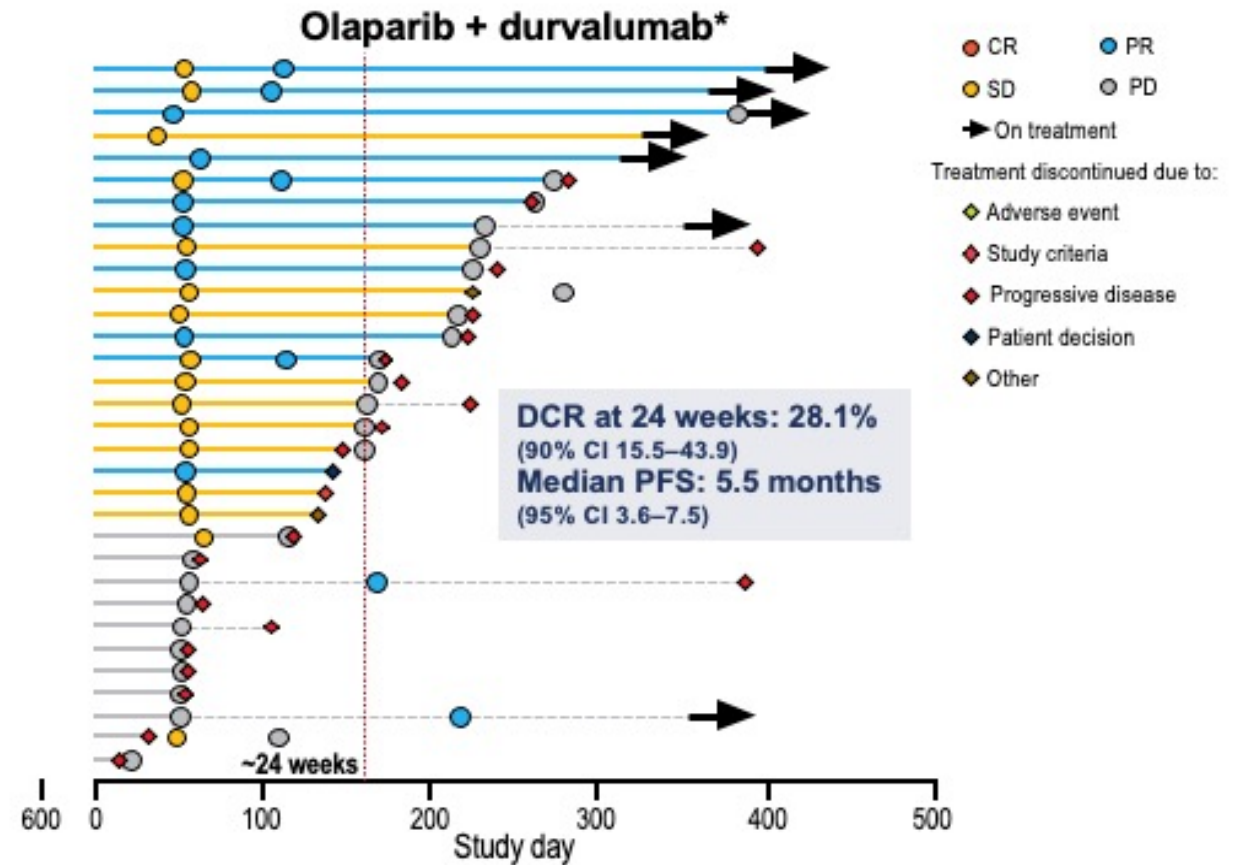
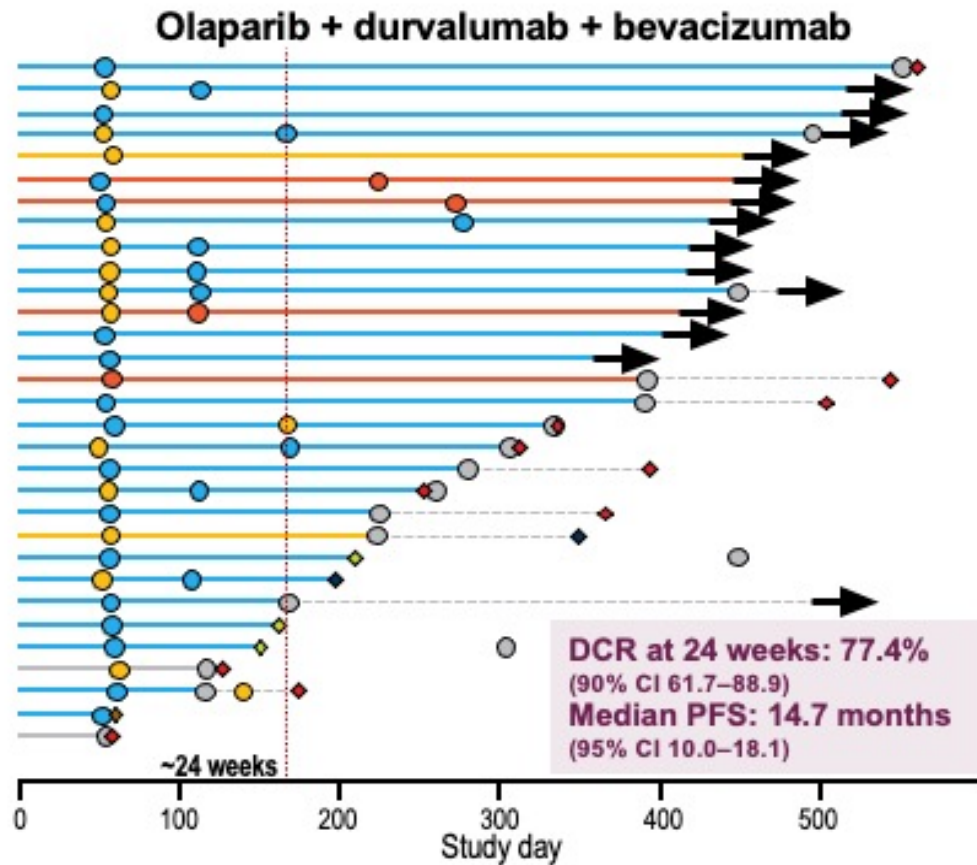
MEDIOLA: A Phase II Study of Olaparib and Durvalumab with or without Bevacizumab for Platinum-Sensitive Relapsed OC: No Germline BRCA Mutation Cohort

Exploratory analysis suggests ORR with triplet cohort is not dependent on genomic instability status (GIS)



Genomic instability status* subgroup	Olaparib + durvalumab + bevacizumab		Olaparib + durvalumab	
	ORR (95% CI), %	n/N patients	ORR (95% CI), %	n/N patients
GIS-positive	100.0 (69.2–100.0)	10/10	50.0 (18.7–81.3)	5/10
GIS-negative	75.0 (34.9–96.8)	6/8	16.7 (0.4–64.1)	1/6
GIS-unknown	84.6 (54.6–98.1)	11/13	31.3 (11.0–58.7)	5/16

MEDIOLA: TTP or Treatment Discontinuation



- Triplet cohort showed high DCT at 24 weeks and a long median PFS

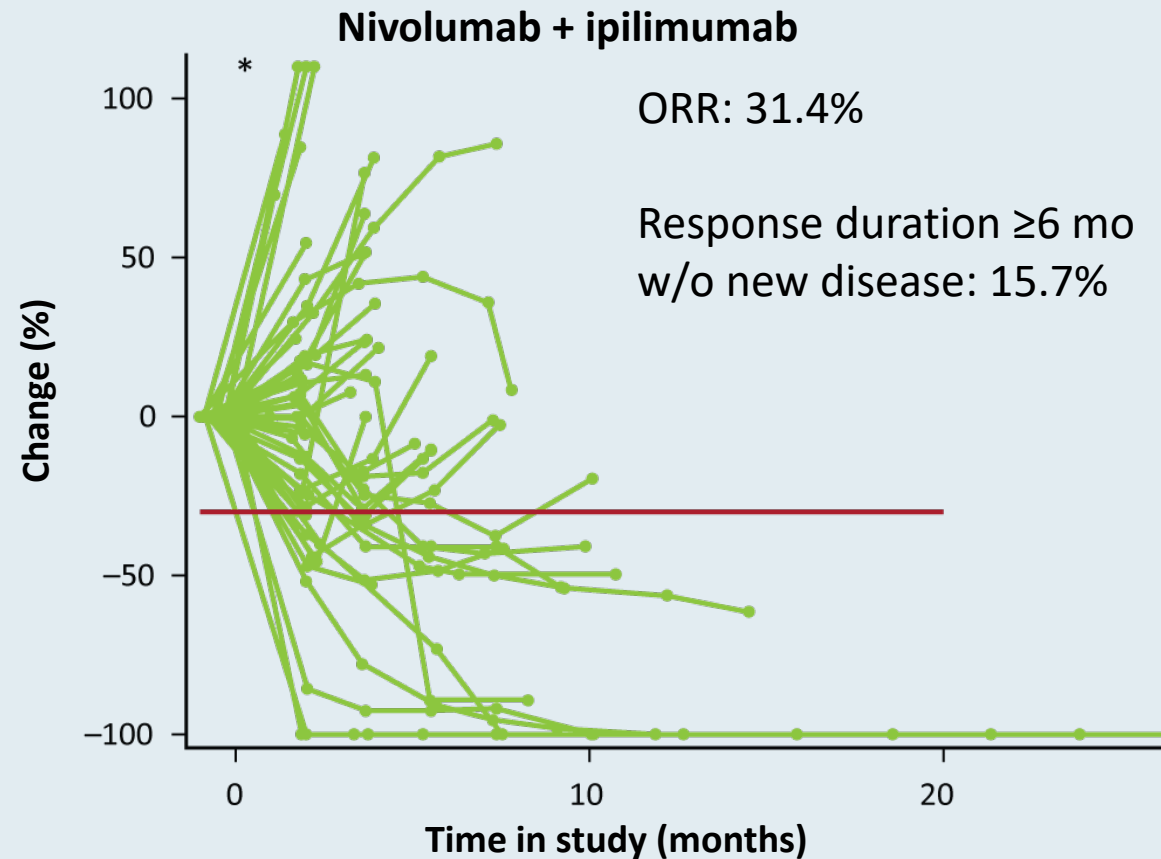
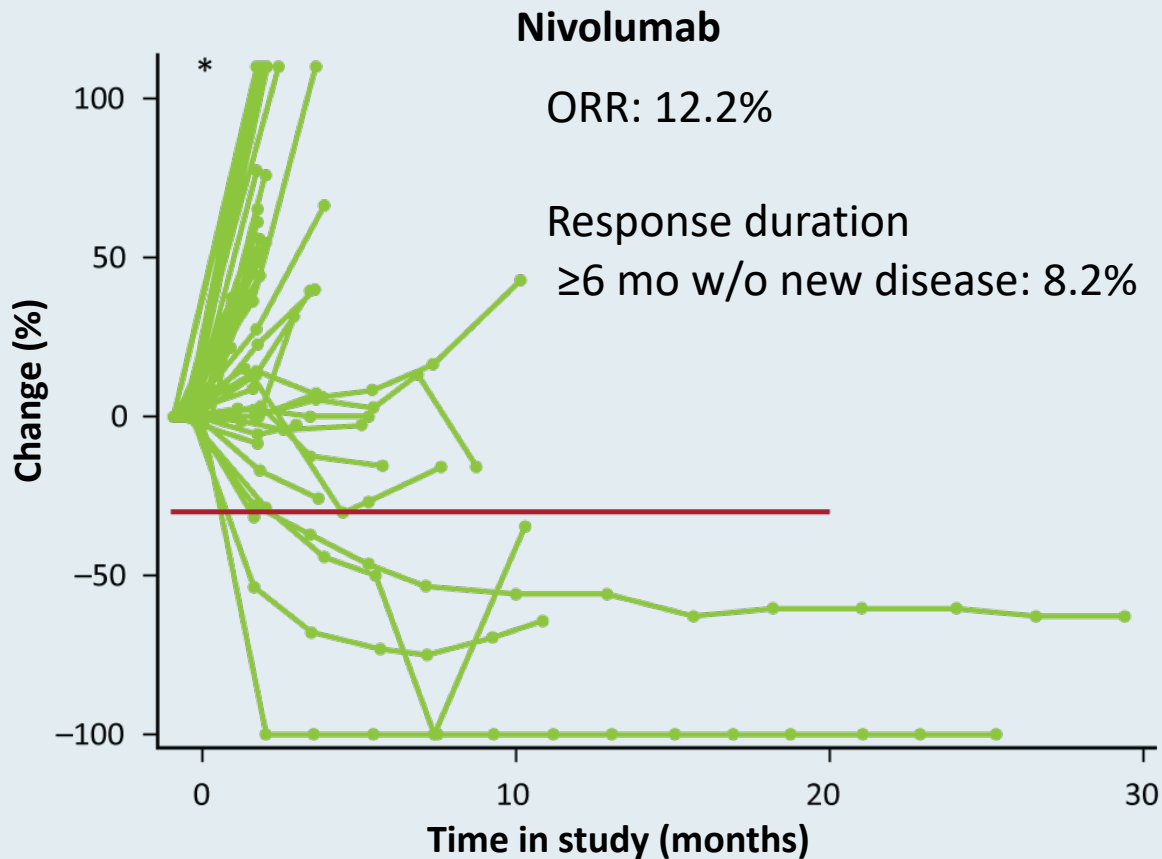
Randomized Phase II Trial of Nivolumab Versus Nivolumab and Ipilimumab for Recurrent or Persistent Ovarian Cancer: An NRG Oncology Study

Dmitriy Zamarin, MD, PhD¹; Robert A. Burger, MD²; Michael W. Sill, PhD³; Daniel J. Powell Jr, PhD⁴; Heather A. Lankes, PhD, MPH⁵; Michael D. Feldman, MD, PhD⁴; Oliver Zivanovic, MD, PhD¹; Camille Gunderson, MD⁶; Emily Ko, MD, MSCR²; Cara Mathews, MD⁷; Sudarshan Sharma, MD⁸; Andrea R. Hagemann, MD⁹; Samir Khleif, MD¹⁰; and Carol Aghajanian, MD¹

J Clin Oncol 2020;38:1814-23

NRG GY003 Phase II Study of Nivolumab with or without Ipilimumab in Recurrent or Persistent OC

(PFI <6 months: 62%, ≥ 2 prior cytotoxic regimens: 70%+ of patients)



PD-L1 expression was not significantly associated with response in either treatment group

Select Ongoing Phase III Trials of Immunotherapy in Combination with PARP Inhibitors

Trial name (Trial identifier)	N	Setting	Treatment arms
ATHENA (NCT03522246)	1,012	Maintenance therapy after 1L platinum-based chemo	<ul style="list-style-type: none"> • Rucaparib + nivolumab • Rucaparib + placebo • Nivolumab + placebo • Placebo
DUO-O (NCT03737643)	1,056	Maintenance therapy after 1L platinum-based chemo/bev ± durvalumab	<ul style="list-style-type: none"> • Bevacizumab • Bevacizumab + durvalumab • Bevacizumab + durvalumab + olaparib

HER2-Positive Endometrial Cancer

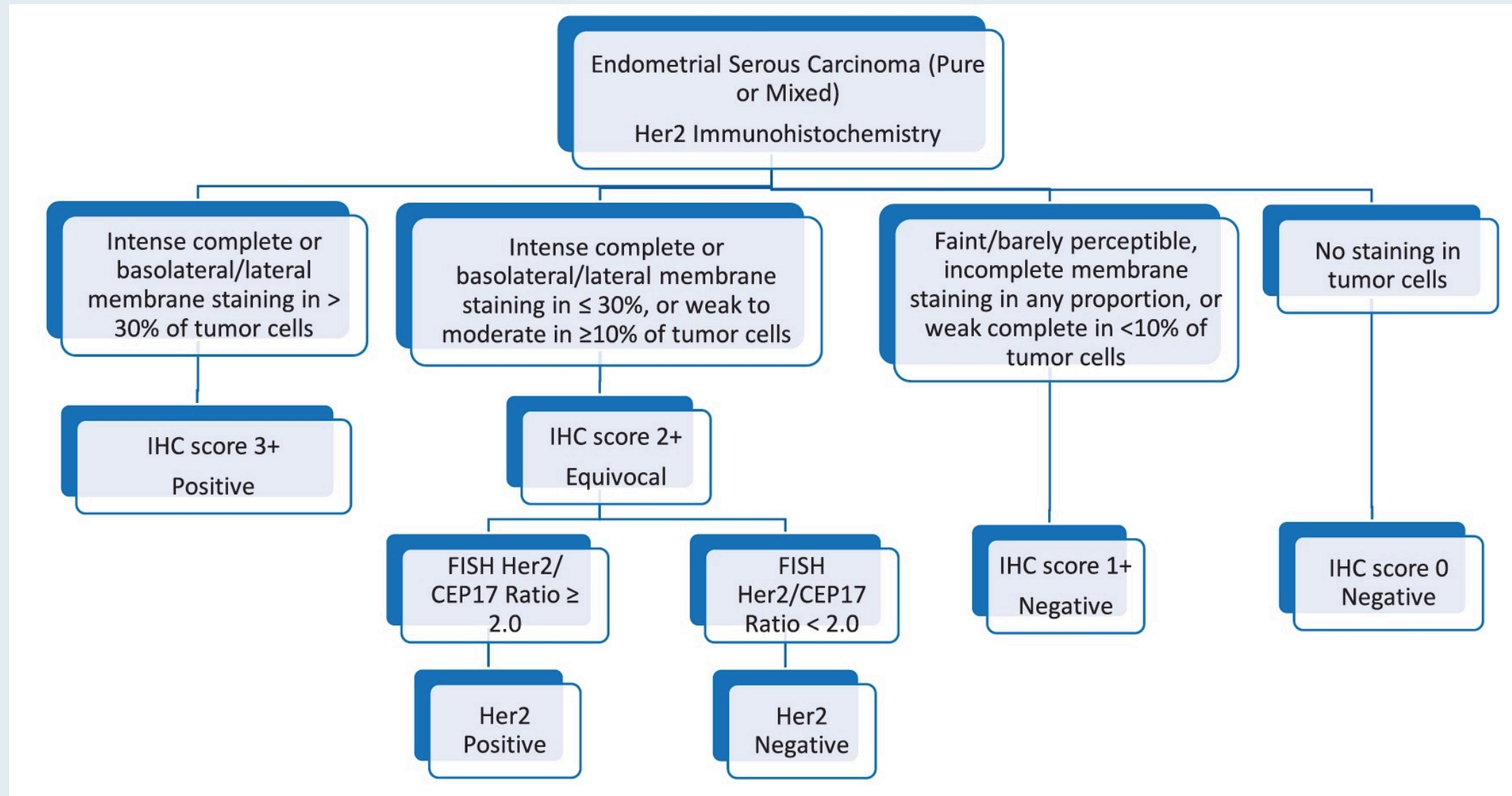
HER2 Testing in Endometrial Serous Carcinoma

Current Criteria (Approved or Proposed) for HER2 Positivity by Immunohistochemistry (IHC) and Fluorescence In Situ Hybridization (FISH) in Different Tumor Types

	Breast (ASCO/CAP 2018) ²³	Gastric (ASCO/CAP 2016) ³⁶	Colorectal (HERACLES Trial) ³⁹	Endometrial Serous (Fader et al Clinical Trial) ²¹
HER2 IHC 3+	>10% circumferential, strong, complete	≥10%, strong complete, or basolateral/lateral	≥50% strong complete, or basolateral/lateral	>30% strong complete or basolateral/lateral
HER2 FISH amplification	HER2/CEP17 ratio ≥2.0 and HER2 signal ≥4.0 per nucleus OR ratio <2.0 and HER2 signal ≥6.0 per nucleus (if IHC score 2+ or 3+)	HER2/CEP17 ratio ≥2.0 OR ratio <2.0 and HER2 signal >6.0 per nucleus	HER2/CEP17 ratio ≥2.0 in ≥50% of cells	HER2/CEP17 ratio ≥2.0

Abbreviations: ASCO, American Society of Clinical Oncology; CAP, College of American Pathologists.

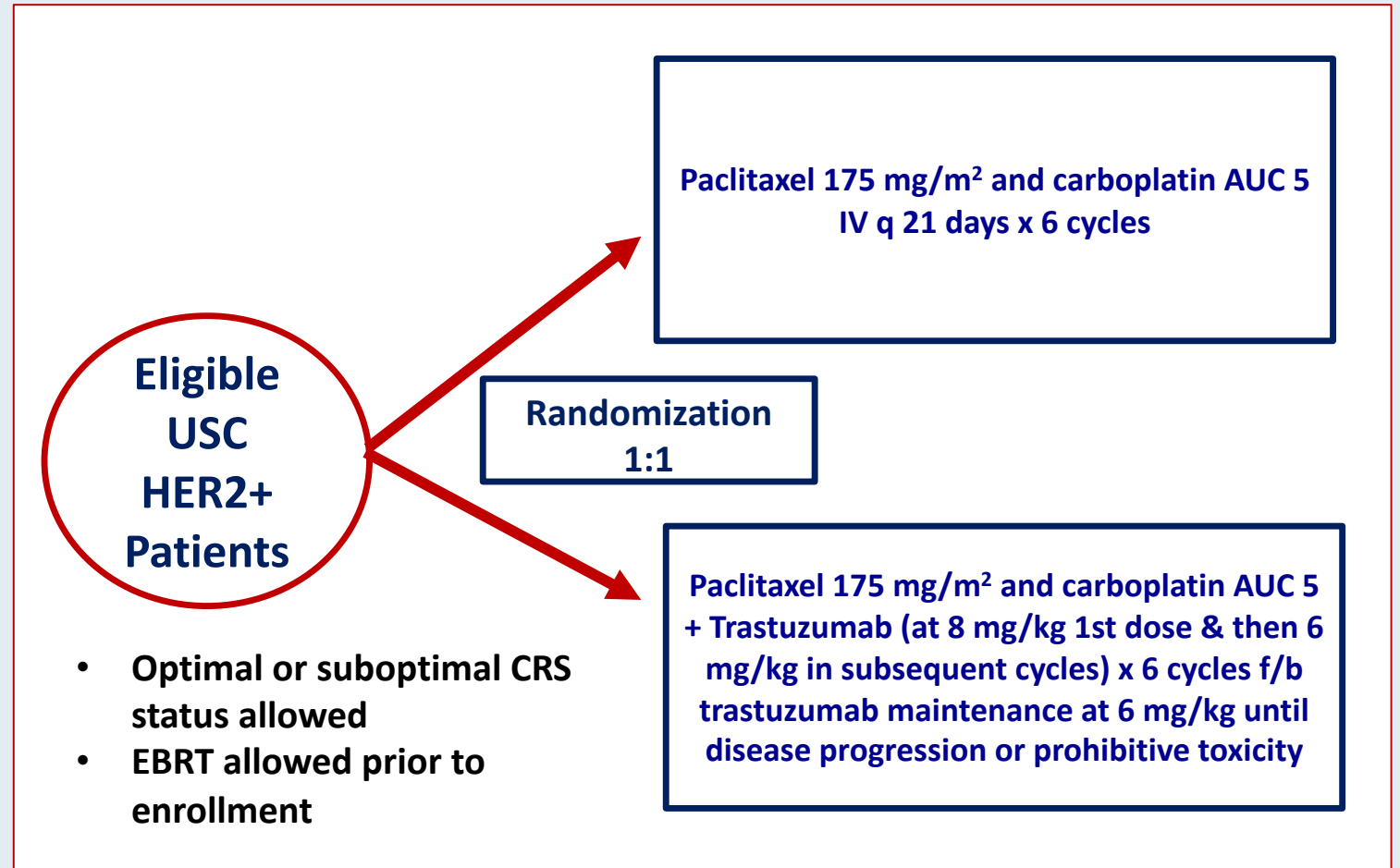
Proposed HER2 Testing Algorithm for Endometrial Serous Carcinoma



Randomized Phase II Trial of Carboplatin/Paclitaxel versus Carboplatin/Paclitaxel/Trastuzumab for Uterine Serous Carcinoma That Overexpresses HER2/Neu: Updated Survival Analysis

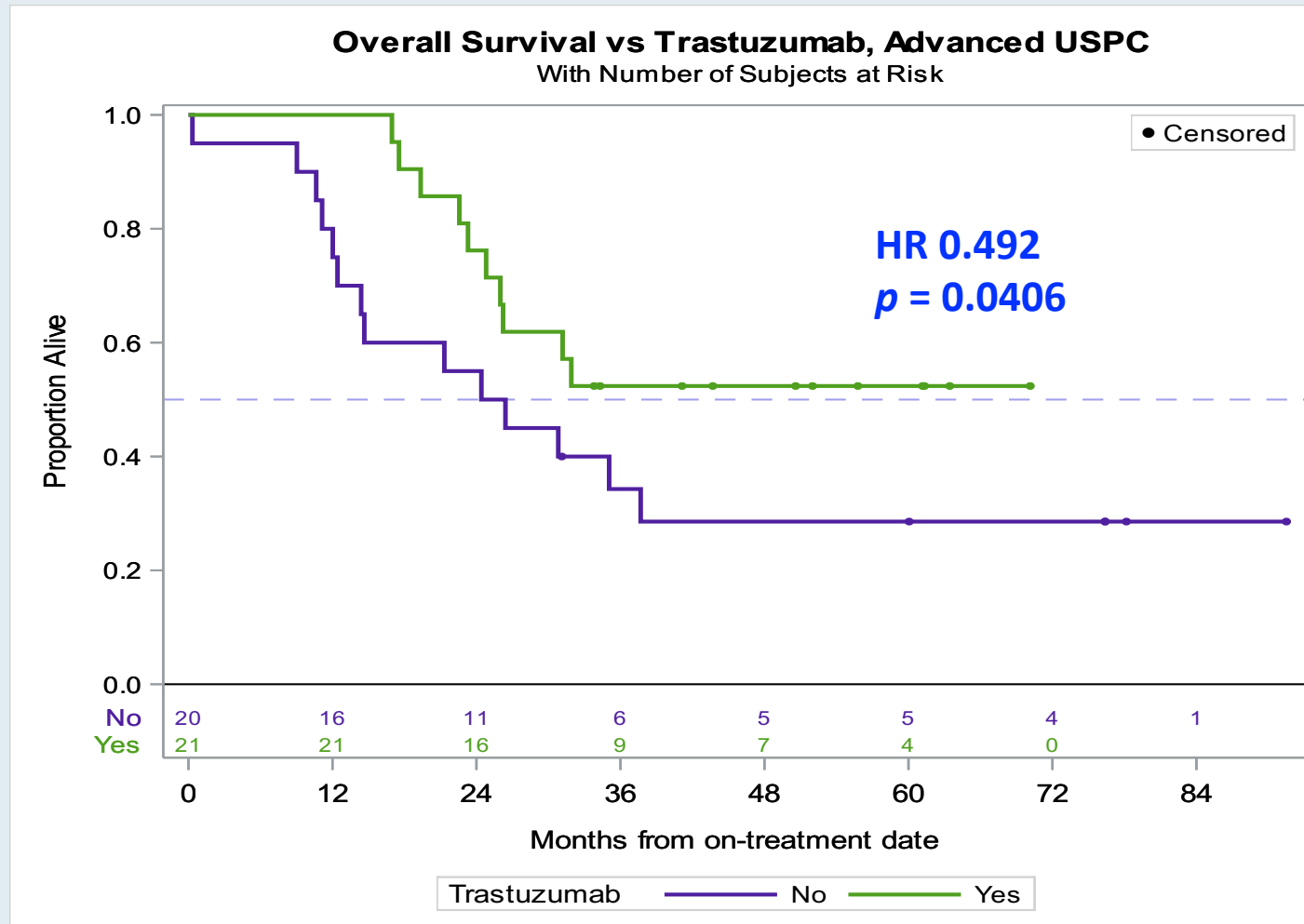
Eligibility

- FIGO Stage III-IV USC or recurrent USC
- HER2/neu+ USC as defined by IHC score of 3+ (ASCO/CAP 2007 criteria) or 2+ with gene amplification confirmed by FISH
- Patients diagnosed with recurrence were required to have measurable disease, defined as at least one target lesion per RECIST 1.1
- Patients with recurrent disease may not have received >3 prior chemotherapies for treatment of their EC, and a treatment-free interval of >6 months from last C/T was required for patients with recurrent disease



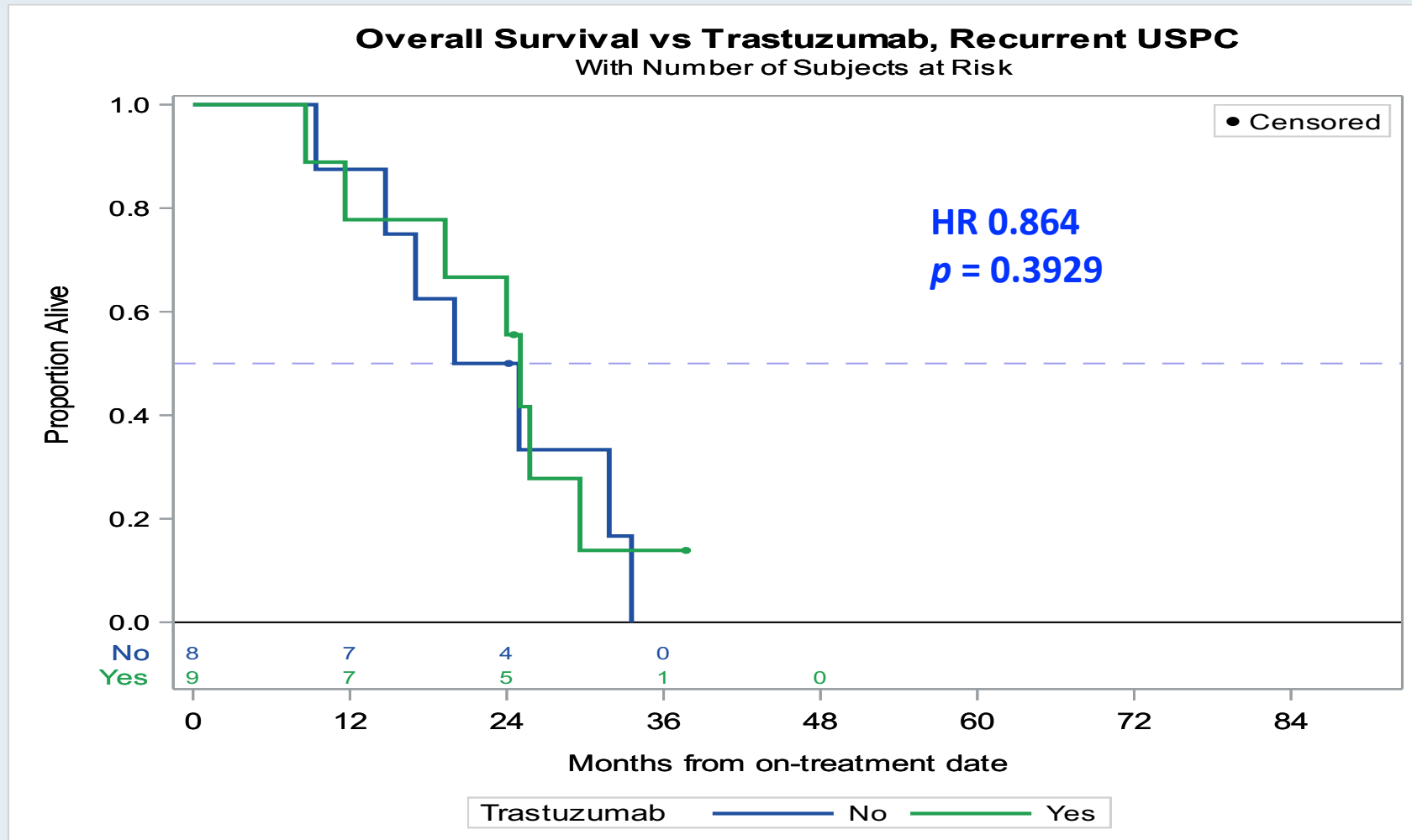
Overall Survival with the Addition of Trastuzumab to Carboplatin/Paclitaxel for Advanced Uterine Serous Papillary Carcinoma (USPC)

- Benefit was particularly striking in the Stage III-IV pts, with a median OS of 25.4 mo (control) compared with an unreached median OS (experimental; $p = 0.0406$, HR 0.492)



Overall Survival with the Addition of Trastuzumab to Carboplatin/Paclitaxel for Recurrent USPC

- No significant OS benefit was observed in the recurrence cohort



Carboplatin/Paclitaxel/Trastuzumab: Summary

- First trial of targeted therapy in USC ONLY patients
- Demonstration that HER2 is an important prognostic and actionable target in USC
- NCCN designation of C/T/Trastuzumab as a preferred regimen in HER2+ USC (Level IIA)

Phase II DESTINY-PanTumor02 Study Design

Trial Identifier: NCT04482309 (Not yet recruiting)

Estimated Enrollment: 280

Eligibility

- Locally advanced, unresectable or metastatic disease
- Disease progression after prior treatment or no satisfactory alternative treatment option
- Prior HER2-targeted therapy allowed
- HER2 expression may be based on local or central assessment



Trastuzumab deruxtecan

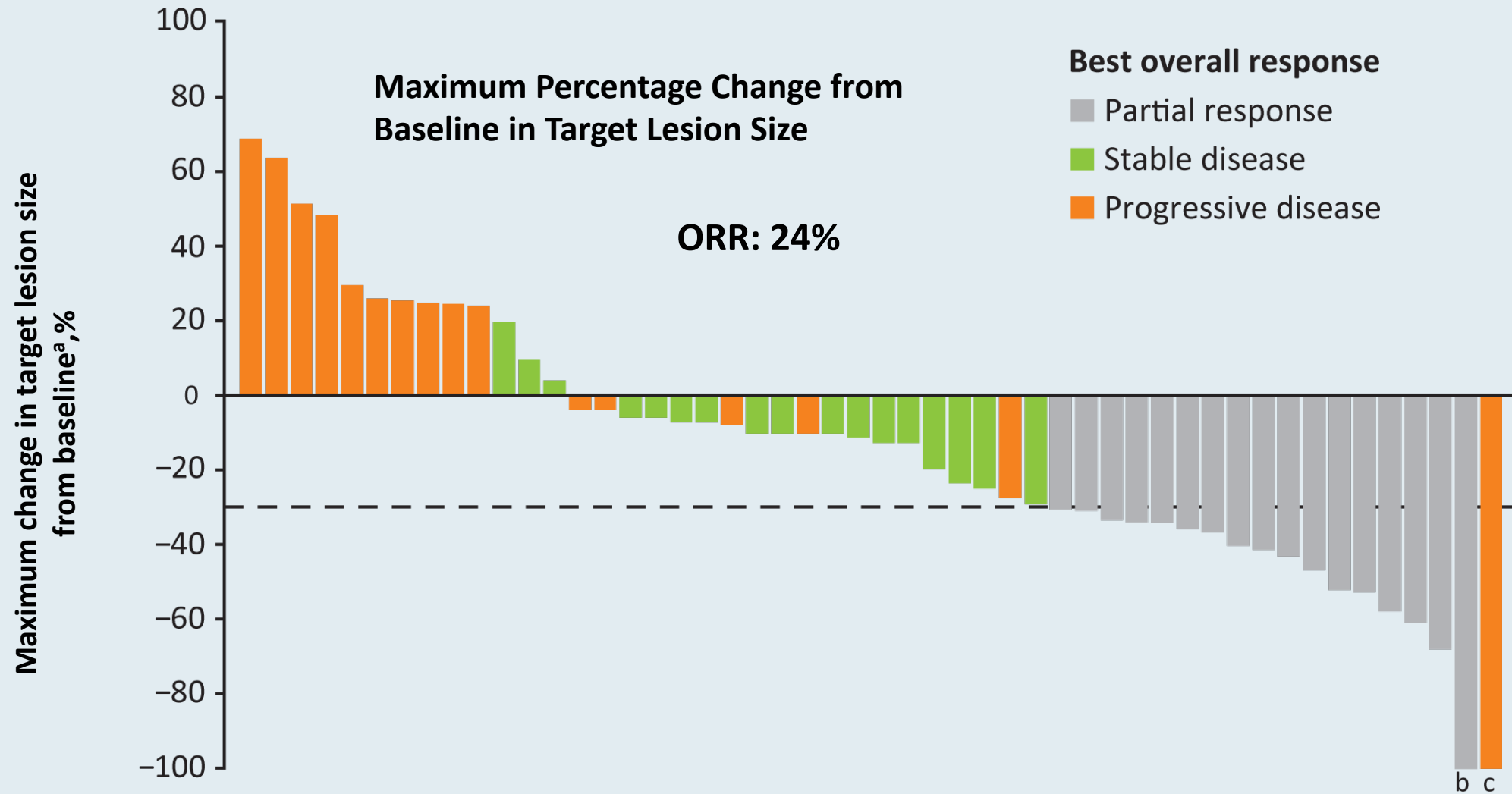
7 cohorts will be evaluated:
Endometrial cancer, cervical cancer, ovarian cancer, bladder cancer, biliary tract cancer, pancreatic cancer and rare tumors

Primary endpoint: ORR

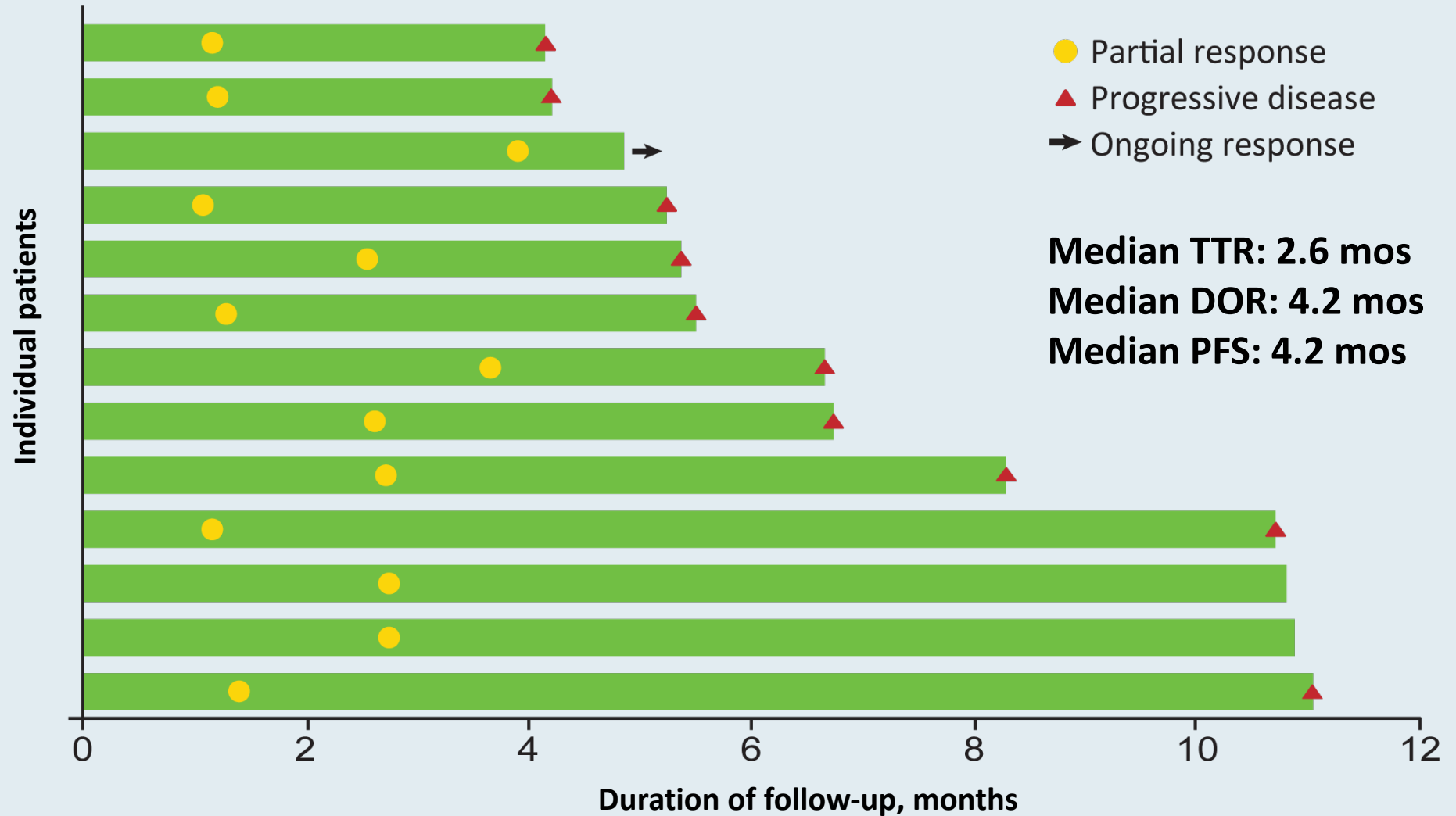
Secondary endpoints include DOR, PFS, OS, DCR

Tisotumab Vedotin and Other Novel Agents in Gynecologic Cancers

innovaTV 201: Best Overall Response to TV

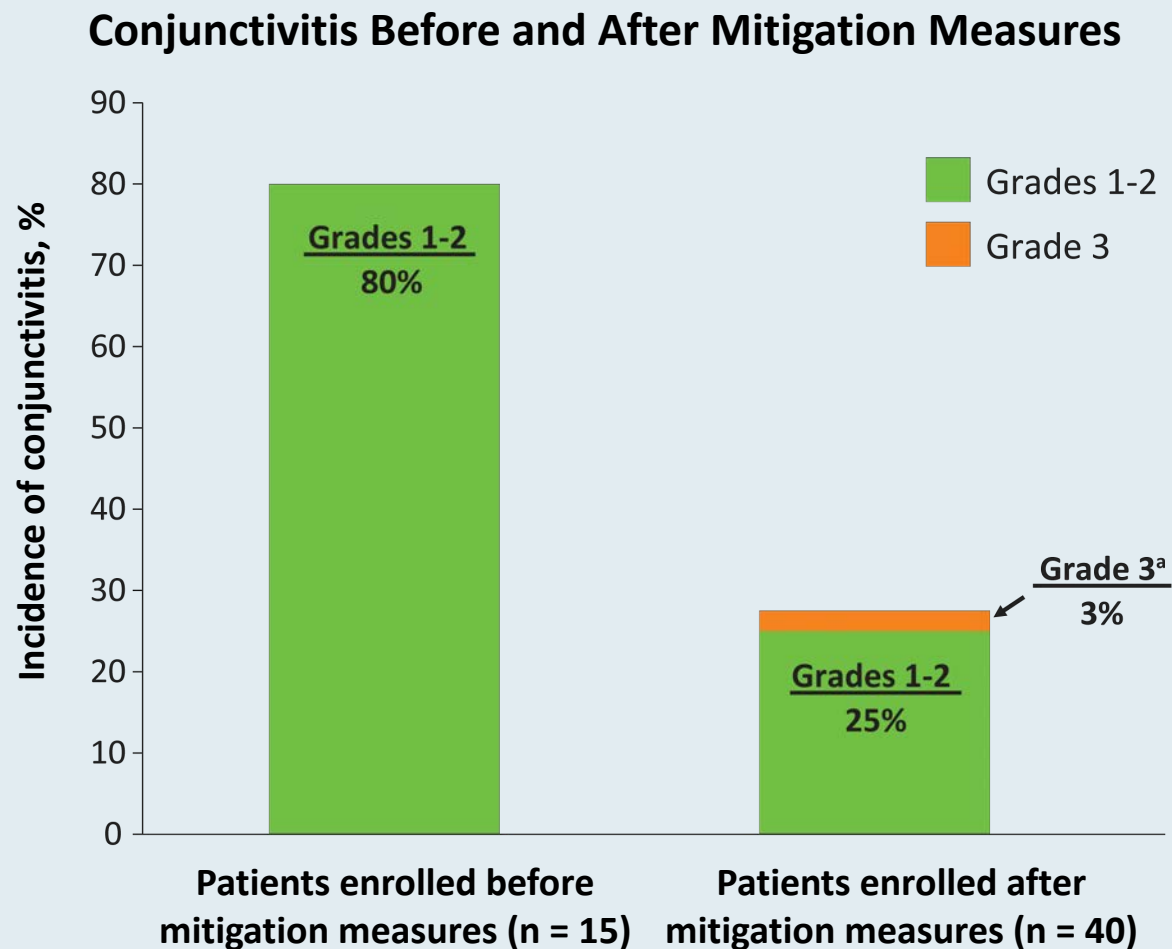


innovaTV 201: Time to Response and Duration of Response in Patients with a Confirmed PR to TV



innovaTV 201: Treatment-Emergent Adverse Events

Adverse events	N = 55	
	All grade	Grade ≥3
Fatigue	51%	9%
Nausea	49%	5%
Neuropathy	55%	11%
Bleeding-related AEs	73%	5%
Ocular AEs	65%	2%
Conjunctivitis	42%	2%
Dry eye	24%	0
Ulcerative keratitis	7%	0
Blepharitis	5%	0
Keratitis	5%	0



Ask the Expert: Clinical Investigators Provide Perspectives on the Management of Renal Cell Carcinoma

In Partnership with Project Echo[®] and Florida Cancer Specialists

**Wednesday, June 2, 2021
5:00 PM – 6:00 PM ET**

Faculty

Walter Stadler, MD

Moderator

Neil Love, MD

RTP
RESEARCH
TO PRACTICE

Project
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Thank you for joining us!

***CME and MOC credit information will be emailed
to each participant within 5 business days.***