

# What I Tell My Patients: Integrating New Research Information into Current Clinical Care

*A Complimentary NCPD Hybrid Symposium Series Held During the 49<sup>th</sup> Annual ONS Congress*

## Head and Neck Cancer

**Friday, April 26, 2024**

**6:00 AM – 7:30 AM**

### **Faculty**

**Meetal Dharia, NP-C, AOCNP**

**Robert L Ferris, MD, PhD**

**Robert Haddad, MD**

**Lynsey P Teulings, APRN**

### **Moderator**

**Neil Love, MD**

# Faculty



**Meetal Dharia, NP-C, AOCNP**  
Division of Hematology/Oncology  
UCLA Health  
Los Angeles, California



**Lynsey P Teulings, APRN**  
Nurse Practitioner  
Head and Neck Medical Oncology  
Smilow Cancer Hospital  
at Yale New Haven Health  
New Haven, Connecticut



**Robert L Ferris, MD, PhD**  
Director, UPMC Hillman Cancer Center  
Hillman Professor of Oncology  
UPMC Senior Vice President for Oncology Programs  
Associate Senior Vice Chancellor for Cancer Research  
University of Pittsburgh School of Medicine  
Pittsburgh, Pennsylvania



**Moderator**  
**Neil Love, MD**  
Research To Practice  
Miami, Florida



**Robert Haddad, MD**  
Chief, Division of Head and Neck Oncology  
McGraw Chair in Head and Neck Oncology  
Institute Physician  
Dana-Farber Cancer Institute  
Professor of Medicine  
Harvard Medical School  
Boston, Massachusetts

# Ms Dharia — Disclosures

No relevant conflicts of interest to disclose

# Dr Ferris — Disclosures

<b>Advisory Boards</b>	Adaptimmune, Bristol Myers Squibb, Coherus BioSciences, CureVac, CytoAgents, Eisai Inc, Genmab US Inc, Hookipa Pharma Inc, Instil Bio, Lifescience Dynamics, MacroGenics Inc, MeiraGTx, Merck, Merus, Numab Therapeutics AG, Oncocyte, Pfizer Inc, Rakuten Medical Inc, Regeneron Pharmaceuticals Inc, Seagen Inc, SIRPant Immunotherapeutics Inc, Vir Biotechnology Inc
<b>Clinical Trial, Research Funding</b>	Bristol Myers Squibb

# Dr Haddad — Disclosures

No relevant conflicts of interest to disclose

# Ms Teulings — Disclosures

<b>Advisory Committee</b>	EMD Serono Inc
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## **Commercial Support**

This activity is supported by educational grants from Coherus BioSciences and EMD Serono Inc.

## **Research To Practice NCPD Planning Committee Members, Staff and Reviewers**

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**This educational activity contains discussion of non-FDA-approved uses of agents and regimens. Please refer to official prescribing information for each product for approved indications.**

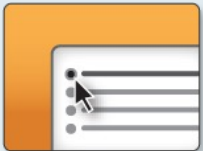


# Clinicians in the Meeting Room

**Networked iPads are available.**



**Review Program Slides: Tap the Program Slides button to review speaker presentations and other program content.**



**Answer Survey Questions: Complete the pre- and postmeeting surveys. Survey questions will be discussed throughout the meeting.**



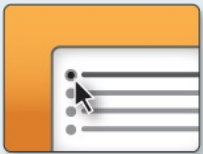
**Ask a Question: Tap Ask a Question to submit a challenging case or question for discussion. We will aim to address as many questions as possible during the program.**

*For assistance, please raise your hand. Devices will be collected at the conclusion of the activity.*

# Clinicians Attending via Zoom



**Review Program Slides:** A link to the program slides will be posted in the chat room at the start of the program.



**Answer Survey Questions:** Complete the pre- and postmeeting surveys. Survey questions will be discussed throughout the meeting.



**Ask a Question:** Submit a challenging case or question for discussion using the Zoom chat room.



**Get NCPD Credit:** An NCPD credit link will be provided in the chat room at the conclusion of the program.

# Clinicians, Please Complete the Pre- and Postmeeting Surveys

**Meet The Professionals**  
**Optimizing the Selection and Sequencing of Therapy for Patients with Gastrointestinal Cancer**

Wednesday, August 25,  
5:00 PM – 6:00 PM EST

Faculty  
Wells A Messersmith, MD

Moderator  
Neil Love, MD

**Quick Survey**

- Carfuzomb +/- dexamethasone
- Pomalidomide +/- dexamethasone
- Carfuzomb + pomalidomide +/- dexamethasone
- Ektuzumab + lenalidomide +/- dexamethasone
- Ektuzumab + pomalidomide +/- dexamethasone
- Daratumumab + lenalidomide +/- dexamethasone
- Daratumumab + pomalidomide +/- dexamethasone
- Daratumumab + bortezomib +/- dexamethasone
- Isazomb + Rd

Submit

Participants (10)

- 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

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

**Regulatory and reimbursement issues aside, what would you recommend for a 65-year-old patient with clear cell renal cell carcinoma (ccRCC) if follow-up 3 years later is found to have asymptomatic disease (PS 0)?**

**Quick Poll**

- Nivolumab/ipilimumab
- Avelumab/axitinib
- Pembrolizumab/axitinib
- Pembrolizumab/lenvatinib
- Nivolumab/cabozantinib
- Tyrosine kinase inhibitor (TKI) monotherapy
- Anti-PD-1/PD-L1 monotherapy
- Other

Submit

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## About the Enduring Program

- The live meeting is being video and audio recorded.
- The proceedings from today will be edited and developed into an enduring web-based video/PowerPoint program.  
An email will be sent to all attendees when the activity is available.
- To learn more about our education programs, visit our website, [www.ResearchToPractice.com](http://www.ResearchToPractice.com)



# “What I Tell My Patients”

## Sixteenth Annual RTP-ONS NCPD Symposium Series

Wednesday April 24	<b>Hormone Receptor-Positive Breast Cancer</b> 6:00 PM – 8:00 PM ET
Thursday April 25	<b>Endometrial Cancer</b> 6:00 AM – 7:30 AM ET
	<b>Antibody-Drug Conjugates</b> 12:15 PM – 1:45 PM ET
	<b>Chronic Lymphocytic Leukemia and Bispecific Antibodies in Lymphoma</b> 6:00 PM – 8:00 PM ET
Friday April 26	<b>Head and Neck Cancer</b> 6:00 AM – 7:30 AM ET
	<b>Non-Small Cell Lung Cancer with an EGFR Mutation</b> 12:15 PM – 1:45 PM ET
	<b>Ovarian Cancer</b> 6:00 PM – 7:30 PM ET
Saturday April 27	<b>Hepatobiliary Cancers</b> 6:00 AM – 7:30 AM ET
	<b>Myelofibrosis</b> 12:15 PM – 1:45 PM ET
	<b>Gastroesophageal and Colorectal Cancers</b> 6:00 PM – 8:00 PM ET
Wednesday, May 1	<b>LIVE WEBINAR — Prostate Cancer</b> 7:00 PM – 8:00 PM ET

# Consulting Nurse Faculty



**Jacqueline Broadway-Duren, PhD, DNP, APRN, FNP-BC**  
The University of Texas  
MD Anderson Cancer Center  
Houston, Texas



**Jessica Mitchell, APRN, CNP, MPH**  
Mayo Clinic College of Medicine and Science  
Rochester, Minnesota



**Kathleen D Burns, RN, MSN, AGACNP-BC, OCN**  
City of Hope Comprehensive  
Cancer Center  
Duarte, California



**Tiffany A Richards, PhD, ANP-BC, AOCNP**  
The University of Texas  
MD Anderson Cancer Center  
Houston, Texas



**Sonia Glennie, ARNP, MSN, OCN**  
Swedish Cancer Institute Center  
for Blood Disorders  
Seattle, Washington



**Kimberly A Spickes, MNSc, RN, APRN, OCN, ACNP-BC**  
University of Arkansas for Medical Sciences  
Little Rock, Arkansas



**Amy Goodrich, CRNP**  
The Sidney Kimmel Comprehensive  
Cancer Center  
Baltimore, Maryland



**Ronald Stein, JD, MSN, NP-C, AOCNP**  
USC Norris Comprehensive Cancer Center  
Los Angeles, California

<https://www.ResearchToPractice.com/ONS2024Clips>



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### Moderator

**Neil Love, MD**

# Agenda

## Introduction

**Module 1: Biology of and Multidisciplinary Treatment Approach to Head and Neck Cancer**

**Module 2: Local Treatment for Head and Neck Cancer**

**Module 3: Emerging Treatment Strategies for Head and Neck Cancer**

**Module 4: Immunotherapy for Head and Neck Cancer**



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**Module 3: Emerging Treatment Strategies for Head and Neck Cancer**

**Module 4: Immunotherapy for Head and Neck Cancer**

# Consulting Nursing Faculty Comments

## Assessing the family/friend support system



**Tiffany A Richards, PhD, ANP-BC, AOCNP**

# Agenda

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**Dr Ferris**

Pittsburgh, PA

# The Biology of Head and Neck Cancer

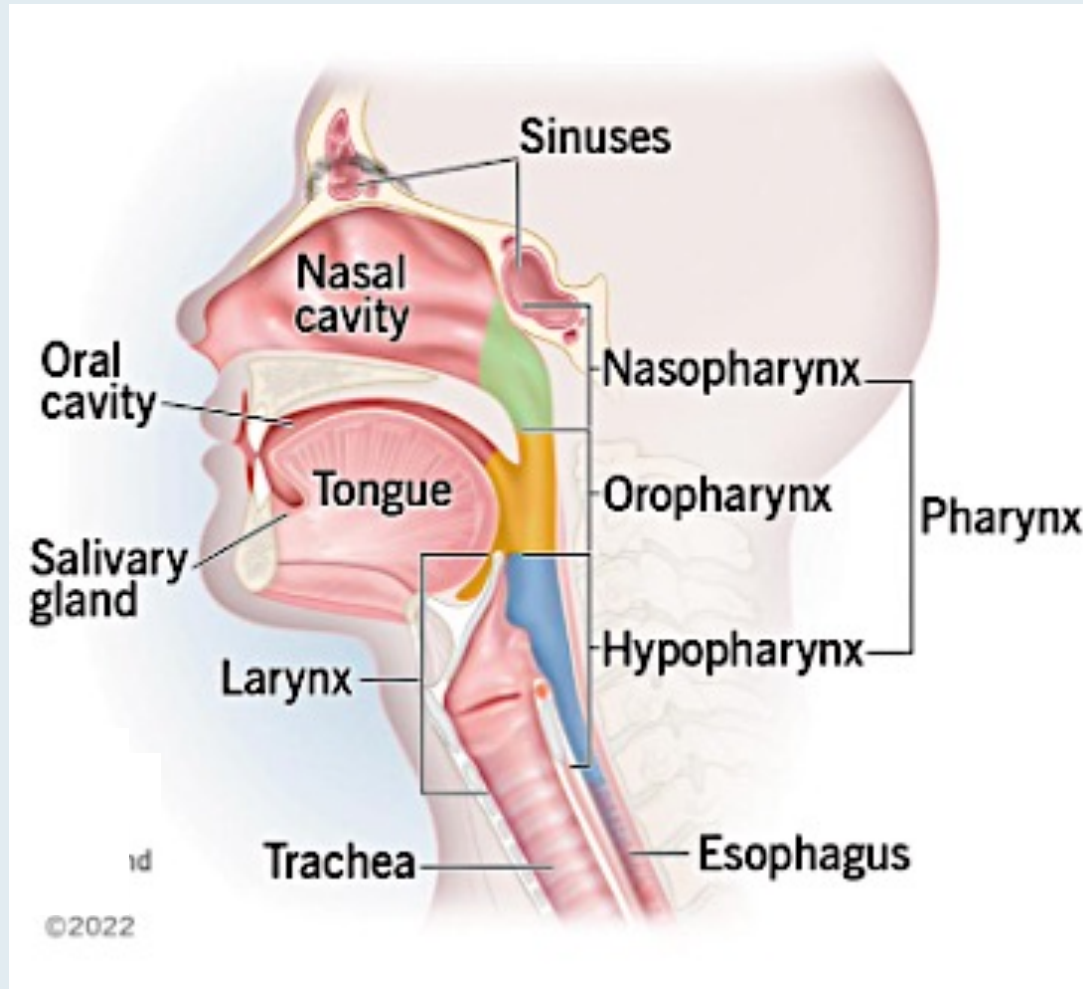








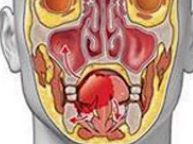
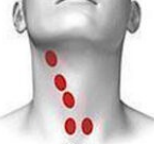

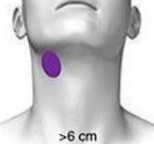
**Dr Haddad**

Boston, MA

- **Anatomic locations in which head and neck cancer can occur (eg, larynx/hypopharynx, nasal cavity/paranasal sinus, nasopharynx, oral cavity/oropharynx, salivary gland); implications of primary tumor location for treatment planning**
- **Staging of head and neck cancer; significance of disease stage for prognosis and treatment**
- **Role of certain viruses, such as the human papillomavirus (HPV) and the Epstein-Barr virus, in head and neck cancer pathogenesis; ramifications of HPV status, if any, for patient outcomes and therapeutic decision-making**
- **Other risk factors for the development of head and neck cancer, such as tobacco use, heavy alcohol consumption, environmental or occupational inhalants and radiation exposure**

# Head and Neck Cancer Regions and Staging



Definition of TNM			Stage groupings		
<b>Stage I</b> <b>T1</b>  Tumor $\leq 2$ cm in greatest dimension without extraparenchymal extension	<b>N0</b>  N0- No regional lymph node metastasis	<b>T1</b> <b>N0</b> <b>M0</b>			
<b>Stage II</b> <b>T2</b>  Tumor $\geq 2$ cm but not more than 4 cm in greatest dimension without extraparenchymal extension	<b>N0</b>  N0- No regional lymph node metastasis	<b>T2</b> <b>N0</b> <b>M0</b>			
<b>Stage III</b> <b>T3</b>  Tumor $\geq 4$ cm and/or tumor having extraparenchymal extension	<b>N1</b>  N1- Metastasis in a single ipsilateral lymph node, $\leq 3$ cm in greatest dimension	<b>T3</b> <b>N0</b> <b>M0</b> <b>T1</b> <b>N1</b> <b>M0</b> <b>T2</b> <b>N1</b> <b>M0</b> <b>T3</b> <b>N1</b> <b>M0</b>			
<b>Stage IVA</b> <b>T4a</b>  Tumor invades skin, mandible, ear canal, and/or fascial nerve	<b>N2</b>  N2a- Metastasis in a single ipsilateral lymph node, $>3$ cm but $\leq 6$ cm N2b- Metastasis in a multiple ipsilateral lymph node, none $>6$ cm N2c- Metastasis in a bilateral or contralateral lymph nodes, none $>6$ cm	<b>T4a</b> <b>N0</b> <b>M0</b> <b>T4a</b> <b>N1</b> <b>M0</b> <b>T1</b> <b>N2</b> <b>M0</b> <b>T2</b> <b>N2</b> <b>M0</b> <b>T3</b> <b>N2</b> <b>M0</b> <b>T4a</b> <b>N2</b> <b>M0</b>			
<b>Stage IVB</b> <b>T4b</b>  Tumor invades skull base and/or pterygoid plates and/or encases carotid artery	<b>N3</b>  N3- Metastasis in a lymph node $>6$ cm in greatest dimension	<b>T4b</b> <b>Any N</b> <b>M0</b> <b>Any T</b> <b>N3</b> <b>M0</b>			
<b>Stage IVC</b>	<b>M1</b>	<b>Any T</b> <b>Any N</b> <b>M1</b>			

<https://www.cancer.gov/types/head-and-neck/head-neck-fact-sheet>;  
<https://my.clevelandclinic.org/health/diseases/14458-head-and-neck-cancer>;  
 Khan SR et al. *Heliyon* 2023 May;9(5):e15894.

*Lynsey P Teulings, APRN*



**What I tell my patients who are experiencing guilt/stigma about a diagnosis of head and neck cancer associated with HPV, tobacco use or alcohol consumption**

# Head and Neck Cancers: Common Demographics and Clinical Characteristics

Cancer Site	Oral Cavity	Oropharynx	
		HPV(-)	HPV(+)
<b>Demographics<sup>5</sup></b>	<ul style="list-style-type: none"> <li>• Smoker/drinker</li> <li>• Older</li> <li>• More African-Americans</li> <li>• Lower SES</li> <li>• Lower education</li> </ul>	<ul style="list-style-type: none"> <li>• Smoker/drinker</li> <li>• Older</li> <li>• More African-Americans</li> <li>• Lower SES</li> <li>• Lower education</li> </ul>	<ul style="list-style-type: none"> <li>• Nonsmoker</li> <li>• Male</li> <li>• Younger</li> <li>• Caucasian</li> <li>• Multiple partners</li> <li>• Higher SES</li> <li>• Higher education</li> </ul>
<b>Common Locations<sup>6</sup></b>	<ul style="list-style-type: none"> <li>• Oral Tongue</li> </ul>	<ul style="list-style-type: none"> <li>• Pharyngeal wall</li> <li>• Soft Palate</li> </ul>	<ul style="list-style-type: none"> <li>• Tonsil</li> <li>• Base of tongue</li> </ul>
<b>Common Presentations<sup>6</sup></b>	<ul style="list-style-type: none"> <li>• Soreness with red or white spots</li> </ul>	<ul style="list-style-type: none"> <li>• Sore throat</li> <li>• Dysphagia</li> <li>• Otalgia</li> </ul>	<ul style="list-style-type: none"> <li>• Painless neck mass</li> </ul>



**Dr Ferris**  
Pittsburgh, PA

# The Multidisciplinary Treatment of Head and Neck Cancer



**Dr Haddad**  
Boston, MA

- **Importance of interdisciplinary coordination in formulating a treatment plan for patients with head and neck cancer**
- **Role of various specialists, such as surgeons, radiation oncologists, medical oncologists, nurses, dentists, speech therapists and nutritionists, in the care of patients with head and neck cancer**
- **Indications for surgery in head and neck cancer; types of surgical procedures employed for various disease subtypes**
- **Rationale for the use of radiation therapy and/or chemotherapy as adjuvant or neoadjuvant treatment for head and neck cancer in patients undergoing surgery or as primary therapy for those with potentially curable disease who are not surgical candidates**



# Agenda

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**Module 1: Biology of and Multidisciplinary Treatment Approach to Head and Neck Cancer**

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**Module 4: Immunotherapy for Head and Neck Cancer**



**Dr Ferris**  
Pittsburgh, PA

# The Potential Short- and Long-Term Effects of Surgery for Head and Neck Cancer



**Dr Haddad**  
Boston, MA

- **Educating patients regarding wound care, potential need for feeding or tracheostomy tubes and, if applicable, tracheostomy care**
- **Potential for xerostomia, trismus, dysphagia, cranial nerve dysfunction, dental problems and other long-term effects in patients undergoing head and neck cancer surgery; appropriate interventions for each**
- **Likelihood of altered dietary intake among patients with head and neck cancer; strategies to address weight loss, dehydration and nutritional deficiencies**
- **Counseling patients who are struggling with the cosmetic outcomes of head and neck cancer surgery; role of and coordination with cosmetic surgeons and mental healthcare professionals**

*Meetal Dharia, NP-C, AOCNP*



**What I tell my patients with head and neck cancer about strategies to maintain adequate nutrition**



# Radiation Therapy and Chemotherapy Side Effects



**Dr Ferris**

Pittsburgh, PA

**Dr Haddad**

Boston, MA

- **Spectrum of adverse effects associated with radiation therapy (eg, fatigue, hearing loss, dysphagia, xerostomia, carotid stenosis, hypothyroidism, strictures, fistula formation, osteoradionecrosis)**
- **Potential for common and serious side effects with chemotherapy; appropriate monitoring strategies and patient education regarding when to contact the care team**
- **Relative timing of radiation therapy- and chemotherapy-associated toxicities**
- **Available supportive management strategies for side effects associated with radiation therapy and chemotherapy**

*Lynsey P Teulings, APRN*



**What I tell my patients who are about to receive adjuvant chemotherapy with or without radiation therapy for head and neck cancer**

# Consulting Nursing Faculty Comments

## Listening to patients



**Jacqueline Broadway-Duren, PhD, DNP, APRN, FNP-BC**

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# Emerging Treatment Strategies Aimed at Improving Outcomes Associated with Localized or Locally Advanced Head and Neck Cancer



**Dr Ferris**  
Pittsburgh, PA

**Dr Haddad**  
Boston, MA

- **Long-term outcomes observed with the traditional treatment paradigm for localized or locally advanced head and neck cancer; proportion of patients with locally advanced disease who develop locoregional recurrence or distant metastases**
- **Educating patients regarding the potential advantages of participating in a clinical research study of a novel investigational strategy**
- **Scientific justification for targeting inhibitors of apoptosis proteins for locally advanced SCCHN; mechanism of action of xevinapant**



# Emerging Treatment Strategies Aimed at Improving Outcomes Associated with Localized or Locally Advanced Head and Neck Cancer



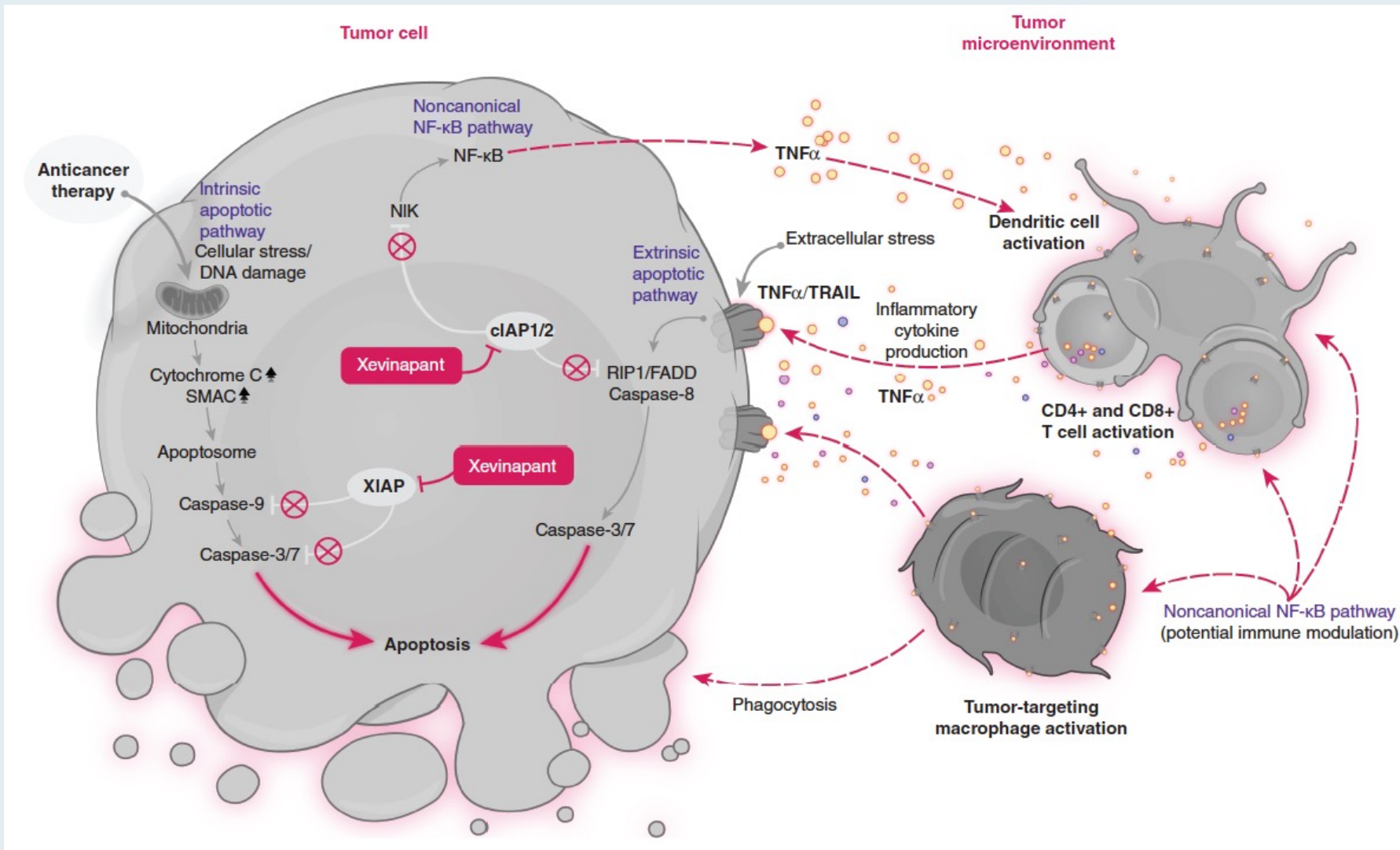
**Dr Ferris**  
Pittsburgh, PA



**Dr Haddad**  
Boston, MA

- **Reductions in the risk of locoregional recurrence, disease progression and death observed with the addition of xevinapant to chemoradiation therapy among patients with locally advanced SCCHN in early clinical trials**
- **Ongoing and planned Phase III studies of xevinapant for locally advanced SCCHN; estimated completion dates**

# Xevinapant: Proposed Mechanism of Action



## Xevinapant is thought to:

- Restore apoptosis in cancer cells by blocking XIAP and cIAP1/2, leading to activation of caspases downstream of the intrinsic mitochondrial and extrinsic TNF receptor signaling pathways
- Enhance the inflammatory antitumor response in immune cells of the tumor microenvironment by activating noncanonical NF- $\kappa$ B signaling through blocking of cIAP1/2 downstream of the TNF receptor

# Xevinapant

## Mechanism of action

- **First-in-class oral IAP (inhibitor of apoptosis protein) blocker**

## Indication

- **Investigational**

## Key clinical trial

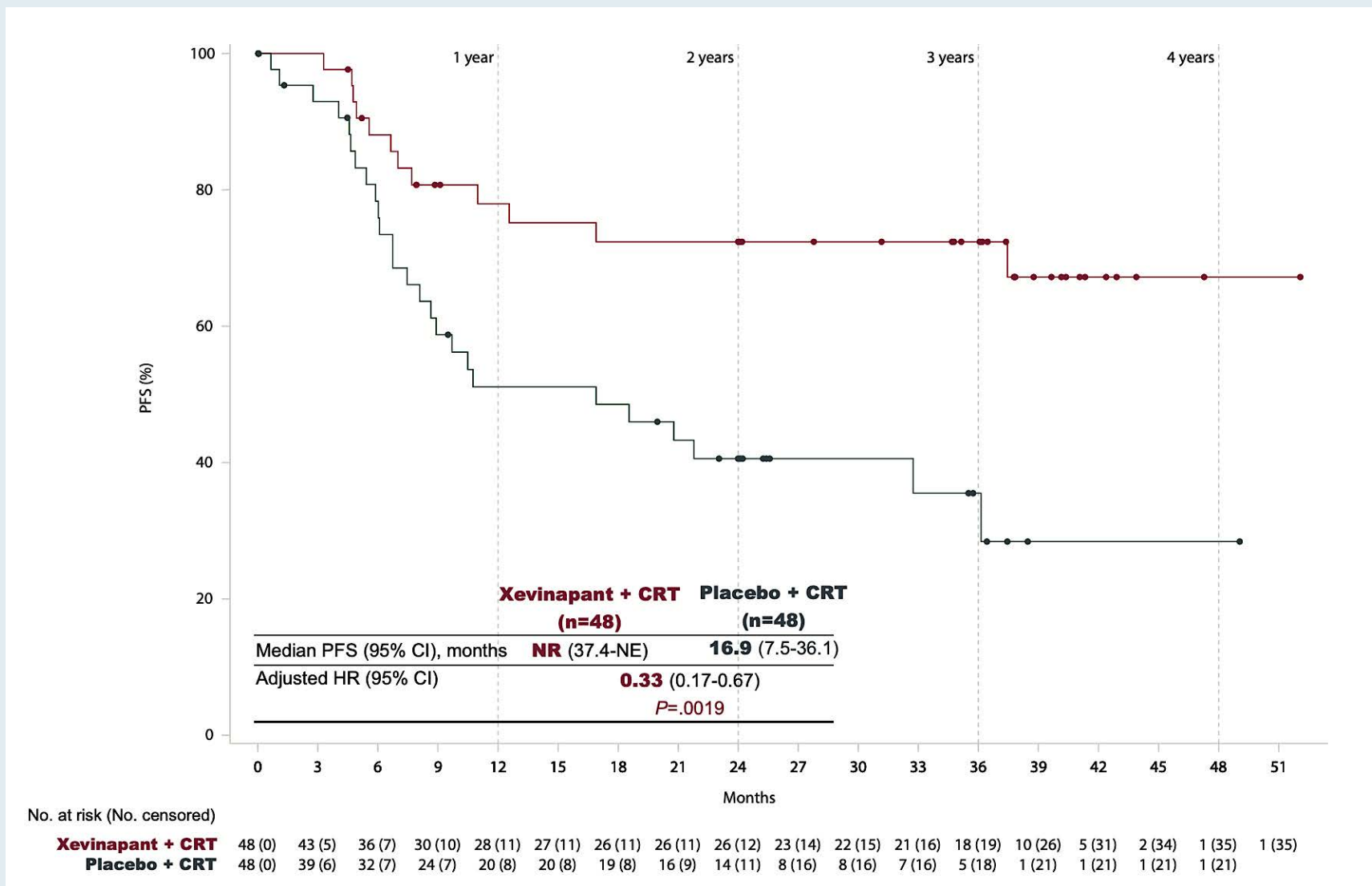
- **Phase III XRAY VISION trial evaluating xevinapant versus placebo added to radiation therapy for high-risk patients with resected locally advanced SCCHN who are ineligible to receive cisplatin-based chemoradiation concurrently**

# Extended follow-up of a phase 2 trial of xevinapant plus chemoradiotherapy in high-risk locally advanced squamous cell carcinoma of the head and neck: a randomised clinical trial

Yungan TAO <sup>a,1</sup>, Xu-Shan Sun <sup>b,1</sup>, Yoann Pointreau <sup>c</sup>,  
Christophe Le Tourneau <sup>d</sup>, Christian Sire <sup>e</sup>, Marie-Christine Kaminsky <sup>f</sup>,  
Alexandre Coutte <sup>g</sup>, Marc Alfonsi <sup>h</sup>, Benôt Calderon <sup>h</sup>, Pierre Boisselier <sup>i</sup>,  
Laurent Martin <sup>j</sup>, Jessica Miroir <sup>k</sup>, Jean-Francois Ramee <sup>l</sup>,  
Jean-Pierre Delord <sup>m</sup>, Florian Clatot <sup>n</sup>, Frederic Rolland <sup>o</sup>, Julie Villa <sup>p</sup>,  
Nicolas Magne <sup>q</sup>, Olgun Elicin <sup>r</sup>, Elisabeta Gherga <sup>b</sup>, France Nguyen <sup>a</sup>,  
Cédrik Lafond <sup>c</sup>, Guillaume Bera <sup>e</sup>, Valentin Calugaru <sup>s</sup>,  
Lionnel Geoffrois <sup>f</sup>, Bruno Chauffert <sup>g</sup>, Lars Damstrup <sup>t</sup>,  
Philippa Crompton <sup>t</sup>, Abdallah Ennaji <sup>t</sup>, Kathrin Gollmer <sup>t</sup>,  
Heidi Nauwelaerts <sup>t</sup>, Jean Bourhis <sup>u,\*</sup>

*Eur J Cancer* 2023;183:24-37.

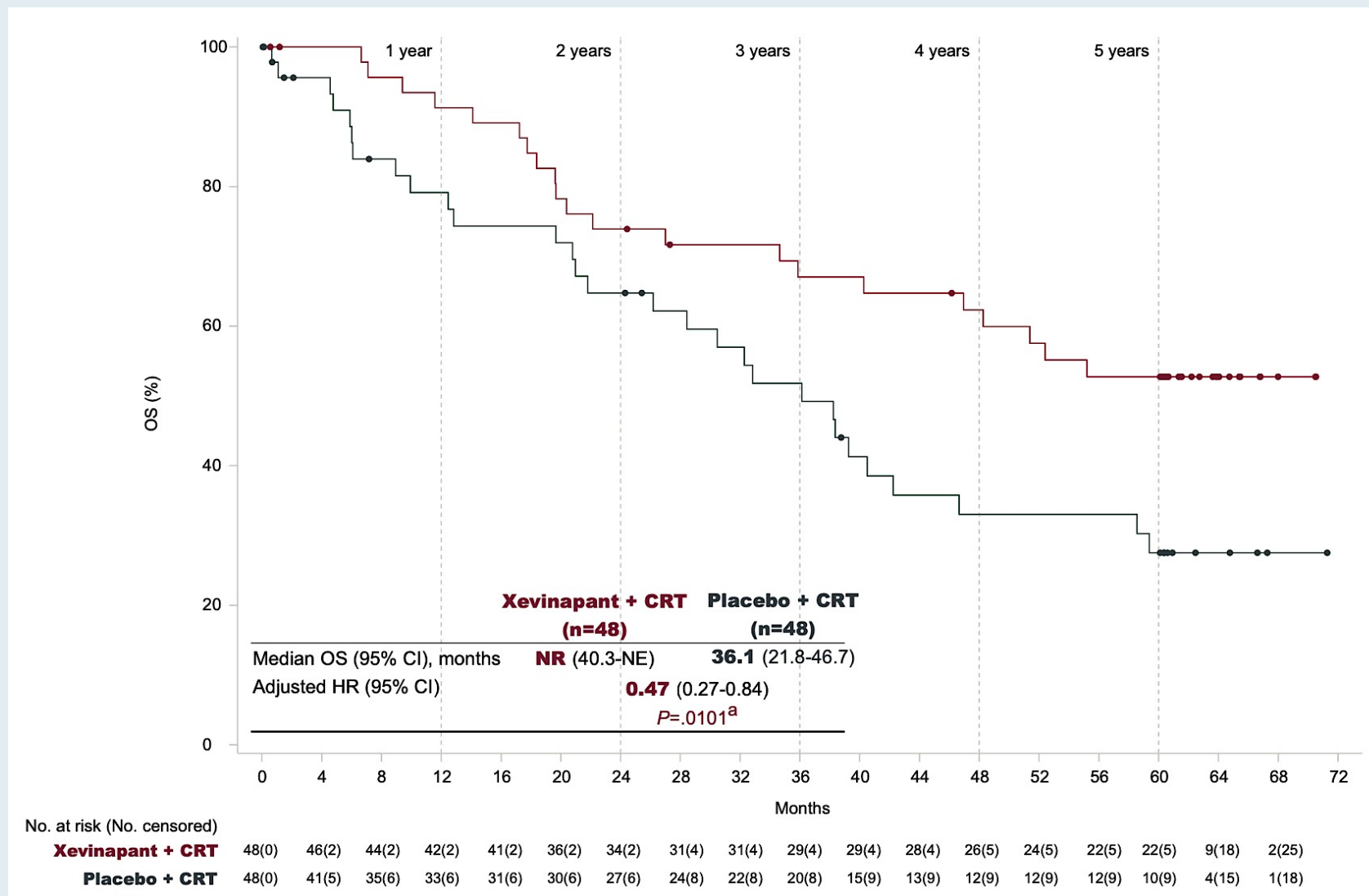
# Results of a Phase II Trial of Xevinapant with Chemoradiation Therapy for High-Risk Locally Advanced SCCHN: Progression-Free Survival (PFS)



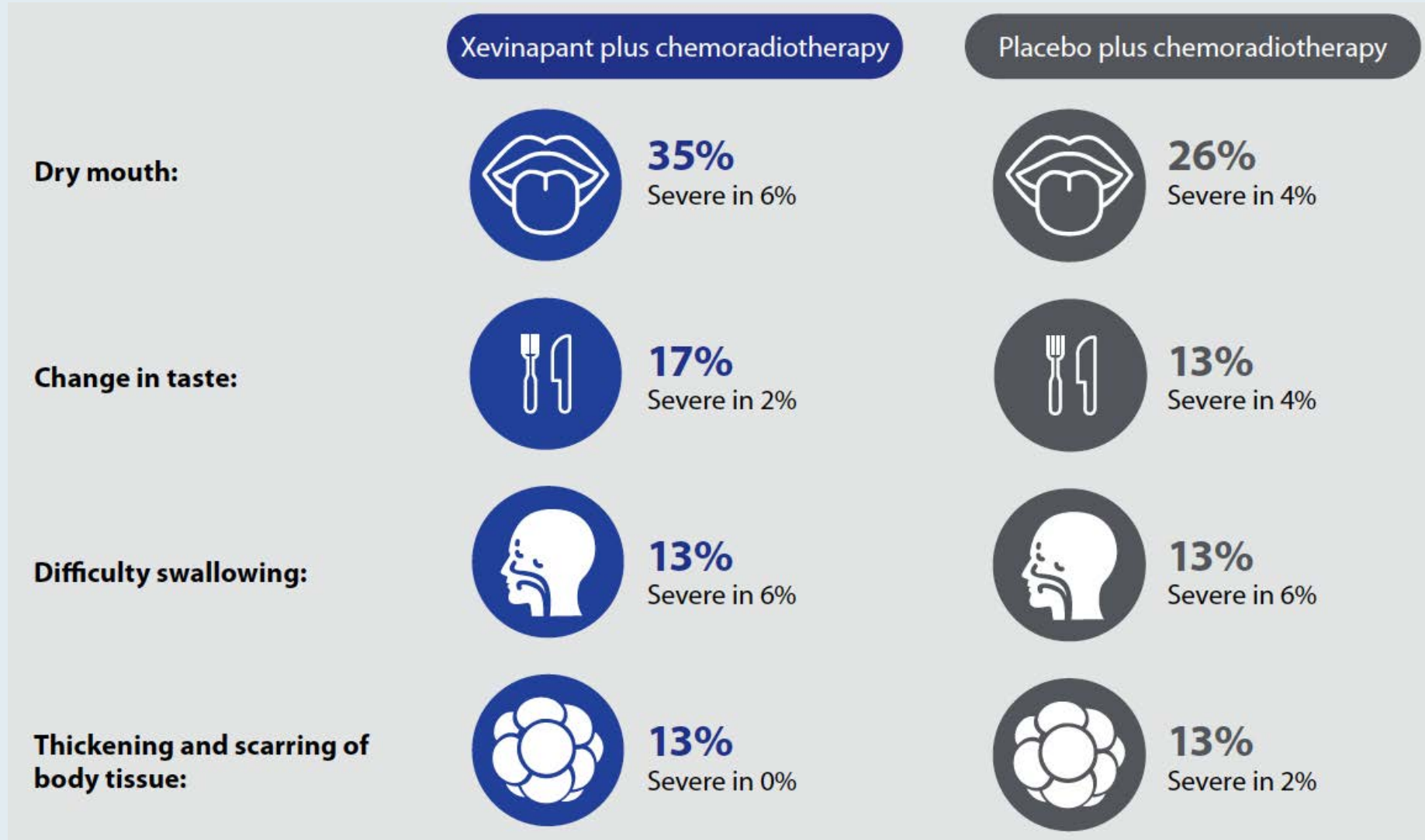
NR = not reached

Tao Y et al. *Eur J Cancer* 2023;183:24-37.

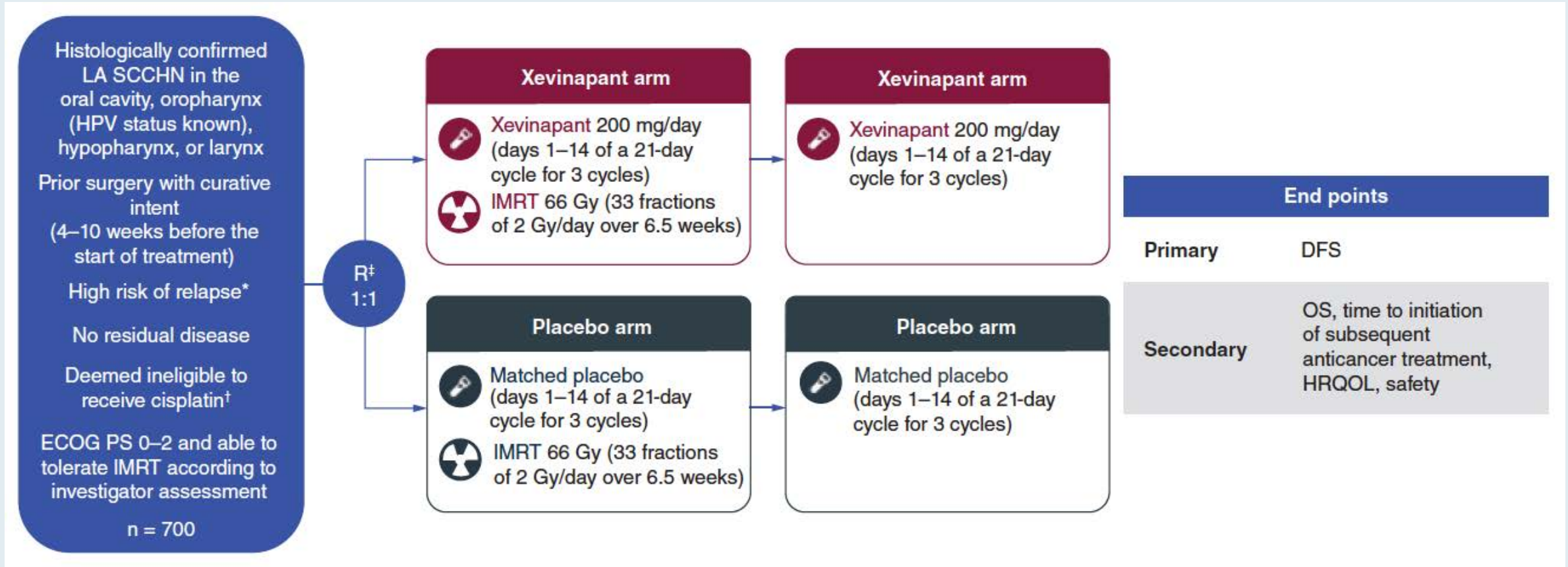
# Results of a Phase II Trial of Xevinapant with Chemoradiation Therapy for High-Risk Locally Advanced SCCHN: Overall Survival (OS)



# Results of a Phase II Trial of Xevinapant with Chemoradiation Therapy for High-Risk Locally Advanced SCCHN: Common Side Effects



# XRAY VISION: Phase III Study Design



LA = locally advanced; SCCHN = squamous cell carcinoma of head and neck; HPV = human papillomavirus; IMRT = intensity-modulated radiation therapy; DFS = disease-free survival; OS = overall survival; HRQOL = health-related quality of life





**Dr Ferris**  
Pittsburgh, PA

# Tolerability Considerations with Xevinapant



**Dr Haddad**  
Boston, MA

- **Common patient misperceptions regarding the safety of clinical trial participation and strategies to dispel these concerns**
- **Preparing interested patients with head and neck cancer for trial participation; instructions regarding adherence, monitoring requirements, adverse event (AE) reporting, et cetera**
- **Proportion of patients experiencing late-onset toxicities with xevinapant in combination with chemoradiation therapy versus chemoradiation therapy alone in published clinical trials**
- **Most common late-onset toxicities, such as dry mouth, dysgeusia, dysphagia and fibrosis, reported with xevinapant in combination with chemoradiation therapy**

*Meetal Dharia, NP-C, AOCNP*



**What I tell my patients about the logistics and potential benefits of enrolling on a clinical trial**

*Lynsey P Teulings, APRN*



**What I tell my patients about the role of palliative/end-of-life care**

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# The Established Role of Anti-PD-1/PD-L1 Antibodies in Therapy for Advanced Head and Neck Cancer



**Dr Ferris**  
Pittsburgh, PA

**Dr Haddad**  
Boston, MA

- **Rationale for the activity of immune checkpoint inhibitors in head and neck cancer**
- **Principal findings with pembrolizumab as monotherapy or in combination with platinum/5-FU as first-line treatment for recurrent or metastatic SCCHN**
- **Indications for pembrolizumab monotherapy and pembrolizumab/chemotherapy for recurrent or metastatic SCCHN; impact of PD-L1 status and other factors on patient selection for these regimens**
- **Clinical trial database supporting the use of pembrolizumab and nivolumab for patients with relapsed metastatic SCCHN**

# Nivolumab

## Mechanism of action

- **Anti-PD-1 monoclonal antibody**

## Indication as single agent

- **For patients with recurrent or metastatic SCCHN with disease progression on or after a platinum-based therapy**

## Recommended dose as single agent

- **240 mg every 2 weeks or 480 mg every 4 weeks**

# Pembrolizumab

## Mechanism of action

- **Anti-PD-1 monoclonal antibody**

## Indications

- **In combination with FU as first-line therapy for metastatic or unresectable recurrent SCCHN As a single agent as first-line therapy for metastatic or unresectable recurrent SCCHN with PD-L1 CPS  $\geq 1$**
- **As a single agent for recurrent or metastatic SCCHN with disease progression on or after platinum-containing chemotherapy**

## Recommended dose as single agent

- **200 mg every 3 weeks or 400 mg every 6 weeks**



# Newly Approved Immunotherapeutic Strategies for Nasopharyngeal Carcinoma



**Dr Ferris**

Pittsburgh, PA

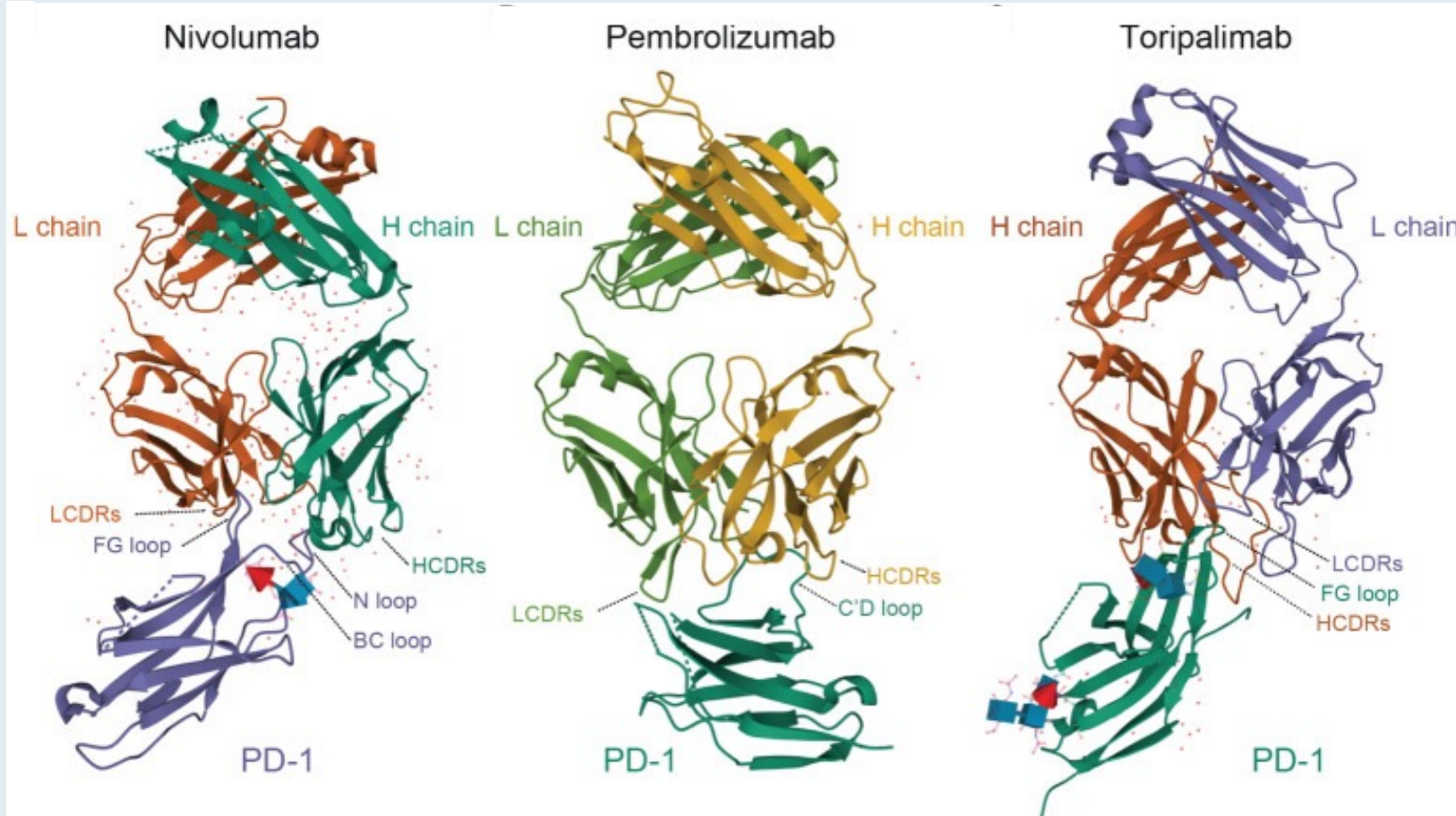
**Dr Haddad**

Boston, MA

- **Unique histopathology, etiology, clinical behavior and natural history of nasopharyngeal carcinoma relative to other squamous cell carcinomas of the head and neck**
- **Similarities and differences between toripalimab and other anti-PD-1/PD-L1 antibodies**
- **Efficacy and safety findings reported with toripalimab in combination with platinum-based chemotherapy as first-line treatment for recurrent or metastatic nasopharyngeal carcinoma**
- **Key outcomes documented with toripalimab as monotherapy in the second-line setting and beyond**
- **Recent FDA approval of toripalimab for nasopharyngeal carcinoma and current clinical role**

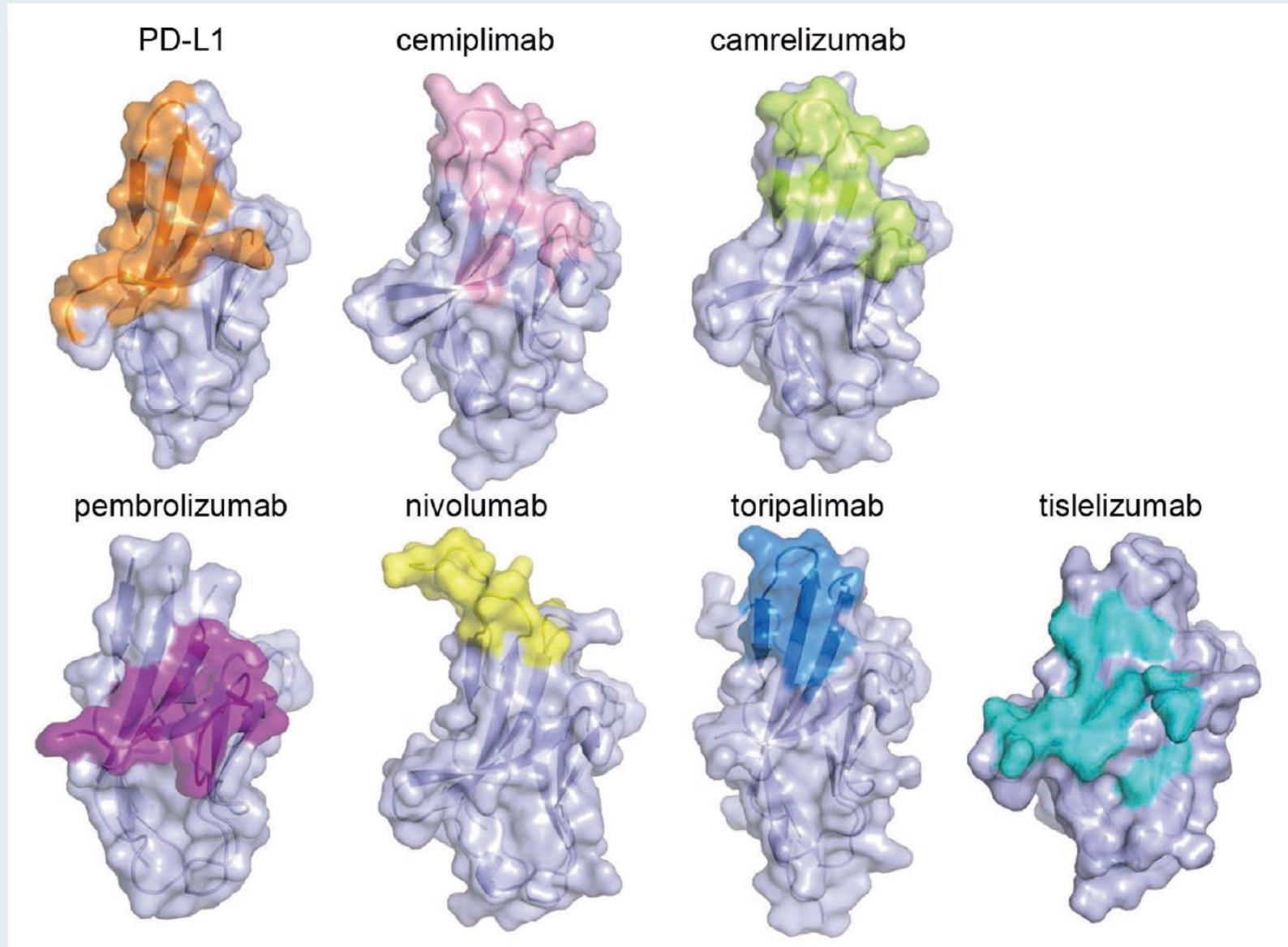


# Comparison of Structures of PD-1 in Complex with Nivolumab, Pembrolizumab and Toripalimab



- Toripalimab is able to bind to PD-1, efficiently blocking the interaction with its ligands; the blockade is mainly attributed to the stereospecific hindrance of the heavy chain.
- The interaction of toripalimab with PD-1 is mainly attributed to the complementarity-determining regions of the heavy chain of the former and the FG loop of the latter; the light chain complementarity-determining regions of toripalimab participate mainly in recognizing the epitopes on PD-1.
- Comparatively, nivolumab mainly binds to the N-terminal loop of PD-1, while the binding of pembrolizumab primarily involves the C'D loop.

# Each PD-1 Inhibitor Has a Different Binding Site to PD-1



# Toripalimab

## Mechanism of action

- **Anti-PD-1 monoclonal antibody**

## Indications

- **In combination with cisplatin and gemcitabine as first-line therapy for patients with metastatic or with recurrent locally advanced nasopharyngeal carcinoma (NPC)**
- **As a single agent for patients with recurrent unresectable or metastatic NPC with disease progression on or after a platinum-containing chemotherapy**

## Recommended dose

- **First-line NPC with chemotherapy: 240 mg IV every 3 weeks**
- **Recurrent NPC as monotherapy: 3 mg/kg IV every 2 weeks**

JAMA | **Original Investigation**

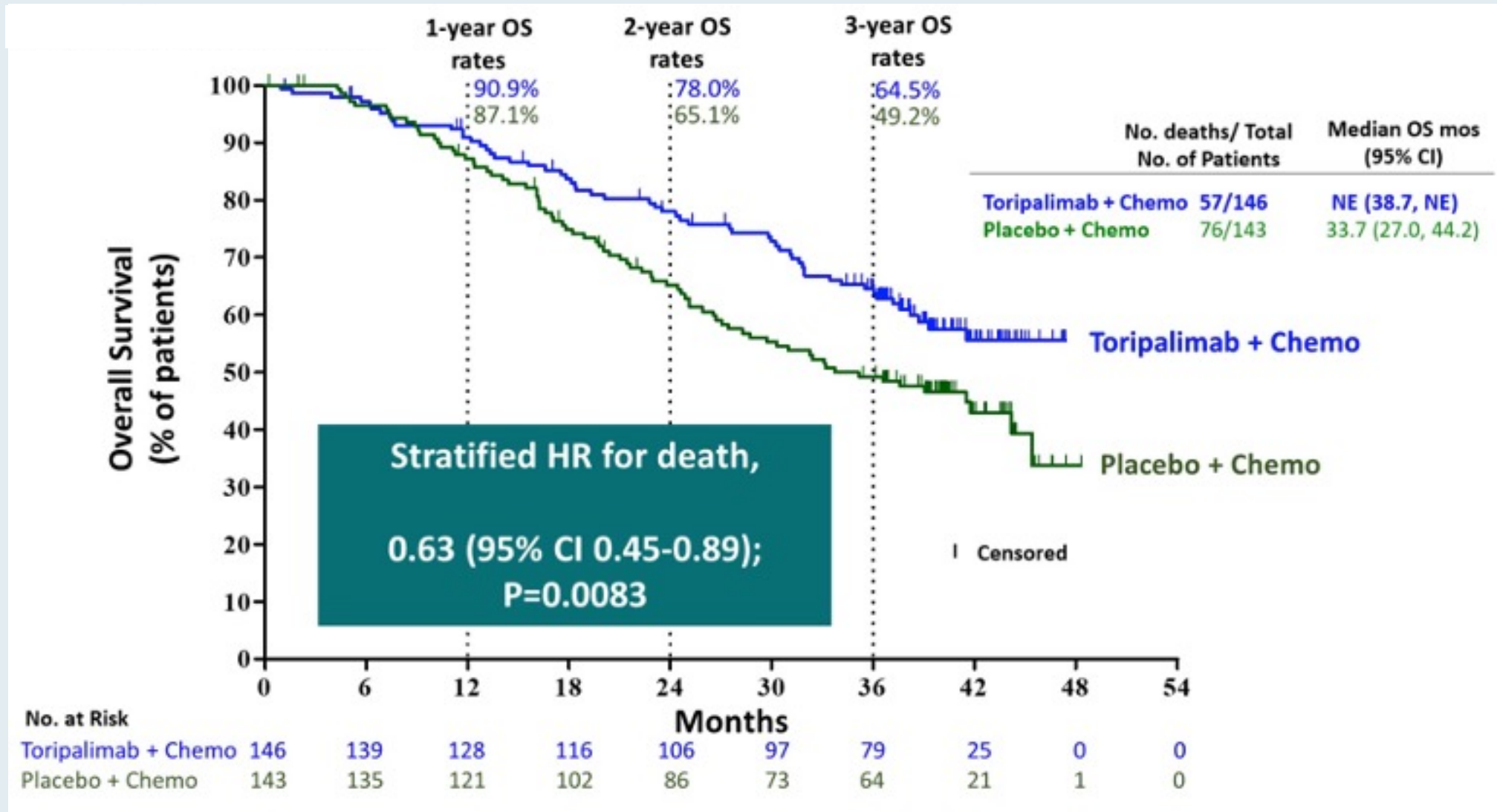
# Toripalimab Plus Chemotherapy for Recurrent or Metastatic Nasopharyngeal Carcinoma

## The JUPITER-02 Randomized Clinical Trial

Hai-Qiang Mai, MD, PhD; Qiu-Yan Chen, MD, PhD; Dongping Chen, MD; Chaosu Hu, PhD; Kunyu Yang, MD, PhD; Jiyu Wen, BS; Jingao Li, MD, PhD; Yingrui Shi, PhD; Feng Jin, MD; Ruilian Xu, MD; Jianji Pan, PhD; Shenhong Qu, MD; Ping Li, MD, PhD; Chunhong Hu, PhD; Yi-Chun Liu, MD; Yi Jiang, MD; Xia He, MD, PhD; Hung-Ming Wang, MD; Wan-Teck Lim, MBBS; Wangjun Liao, MD, PhD; Xiaohui He, MD; Xiaozhong Chen, MD; Siyang Wang, PhD; Xianglin Yuan, MD; Qi Li, PhD; Xiaoyan Lin, PhD; Shanghua Jing, MD; Yanju Chen, MD; Yin Lu, MD; Ching-Yun Hsieh, MD; Muh-Hwa Yang, MD, PhD; Chia-Jui Yen, MD, PhD; Jens Samol, MD; Xianming Luo, MD; Xiaojun Wang, MS; Xiongwen Tang, PhD; Hui Feng, PhD; Sheng Yao, PhD; Patricia Keegan, MD; Rui-Hua Xu, MD, PhD

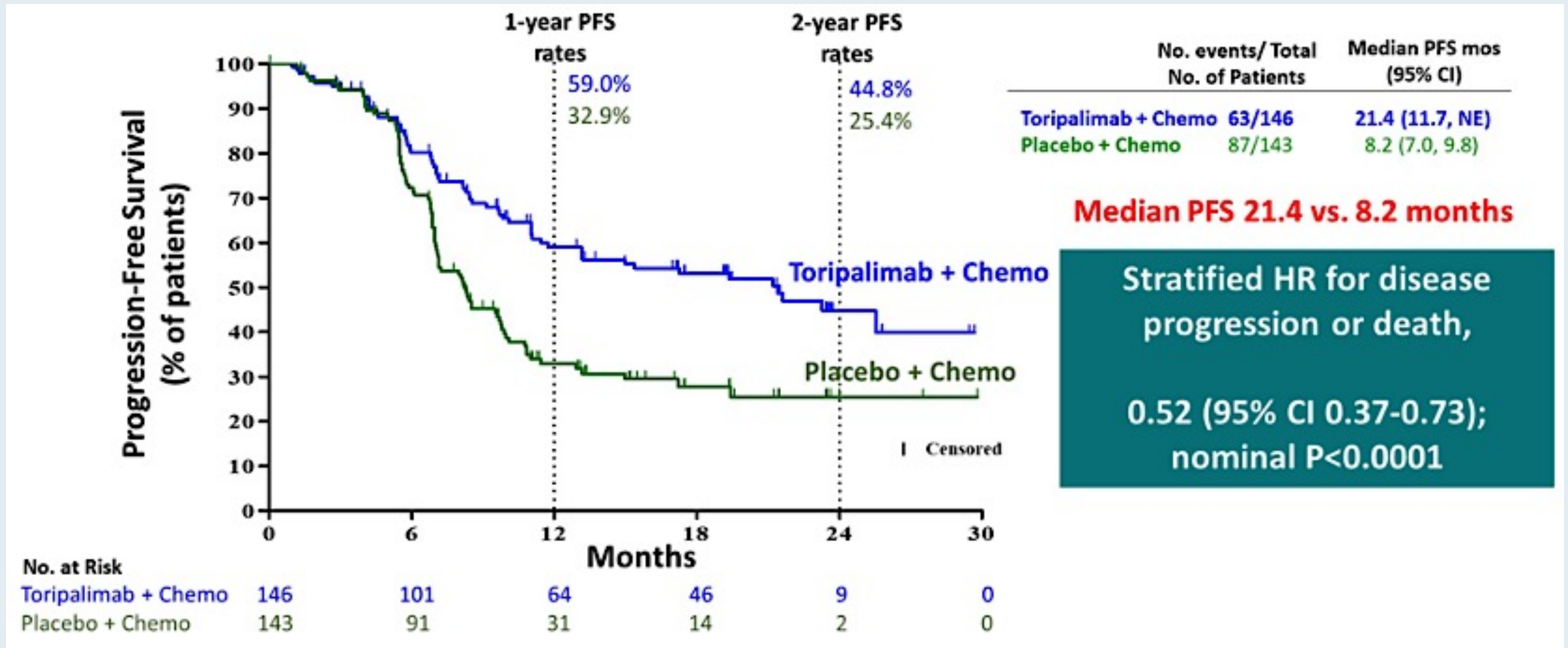
**2023 November 28;330(20):1961-70**

# JUPITER-02: Final Overall Survival in the ITT Population



ITT = intent-to-treat

# JUPITER-02: Final Progression-Free Survival in the ITT Population



# JUPITER-02: Select Treatment-Emergent Adverse Events

Adverse event, No. of patients (%) <sup>a</sup>	Toripalimab + gemcitabine-cisplatin (n = 146)		Placebo + gemcitabine-cisplatin (n = 143)	
	Any grade	≥Grade 3 <sup>b</sup>	Any grade	≥Grade 3
Any treatment-emergent adverse event <sup>c,d</sup>	146 (100)	131 (89.7)	143 (100.0)	129 (90.2)
Leukopenia	133 (91.1)	90 (61.6)	135 (94.4)	84 (58.7)
Anemia	130 (89.0)	72 (49.3)	135 (94.4)	58 (40.6)
Neutropenia	126 (86.3)	86 (58.9)	133 (93.0)	91 (63.6)
Nausea	103 (70.5)	2 (1.4)	121 (84.6)	4 (2.8)
Vomiting	99 (67.8)	3 (2.1)	94 (65.7)	3 (2.1)
Thrombocytopenia	94 (64.4)	49 (33.6)	88 (61.5)	41 (28.7)
Decreased appetite	81 (55.5)	1 (0.7)	90 (62.9)	0
Constipation	58 (39.7)	0	66 (46.2)	0
Aspartate aminotransferase increased	58 (39.7)	2 (1.4)	45 (31.5)	2 (1.4)
Alanine aminotransferase increased	56 (38.4)	2 (1.4)	57 (39.9)	0
Fatigue	54 (37.0)	3 (2.1)	54 (37.8)	3 (2.1)
Hypothyroidism	53 (36.3)	1 (0.7)	25 (17.5)	0
Rash	51 (34.9)	5 (3.4)	39 (27.3)	3 (2.1)
Pyrexia	47 (32.2)	2 (1.4)	35 (24.5)	1 (0.7)
Diarrhea	45 (30.8)	2 (1.4)	33 (23.1)	0
Neuropathy peripheral	45 (30.8)	0	45 (31.5)	1 (0.7)

# FDA Approves Toripalimab-tpzi for Nasopharyngeal Carcinoma

## Press Release – October 27, 2023

“The Food and Drug Administration approved toripalimab-tpzi with cisplatin and gemcitabine for the first-line treatment of adults with metastatic or recurrent, locally advanced nasopharyngeal carcinoma (NPC). FDA also approved toripalimab-tpzi as a single agent for adults with recurrent unresectable or metastatic NPC with disease progression on or after a platinum-containing chemotherapy.

Efficacy of toripalimab-tpzi with cisplatin and gemcitabine was evaluated in JUPITER-02 (NCT03581786), a randomized, multicenter, single region, double-blind, placebo-controlled trial in 289 patients with metastatic or recurrent, locally advanced NPC who had not received previous systemic chemotherapy for recurrent or metastatic disease.

Efficacy of toripalimab-tpzi as a single agent was evaluated in POLARIS-02 (NCT02915432), an open-label, multicenter, single country, multicohort trial in 172 patients with unresectable or metastatic NPC who had received prior platinum-based chemotherapy or had disease progression within 6 months of completion of platinum-based chemotherapy administered as neoadjuvant, adjuvant, or definitive chemoradiation treatment for locally advanced disease.”





# The Tolerability of Immune Checkpoint Inhibitors



**Dr Ferris**

Pittsburgh, PA

**Dr Haddad**

Boston, MA

- **Pathophysiology, incidence and spectrum of immune-mediated and other AEs observed with anti-PD-1/PD-L1 antibodies**
- **Impact on the tolerability of anti-PD-1/PD-L1 antibodies when administered in combination with chemotherapy**
- **Optimal monitoring and management of immune-related and other AEs with anti-PD-1/PD-L1 antibodies**
- **Relative and absolute contraindications to the use of immune checkpoint inhibitor therapy; role, if any, for patients with preexisting autoimmune complications**

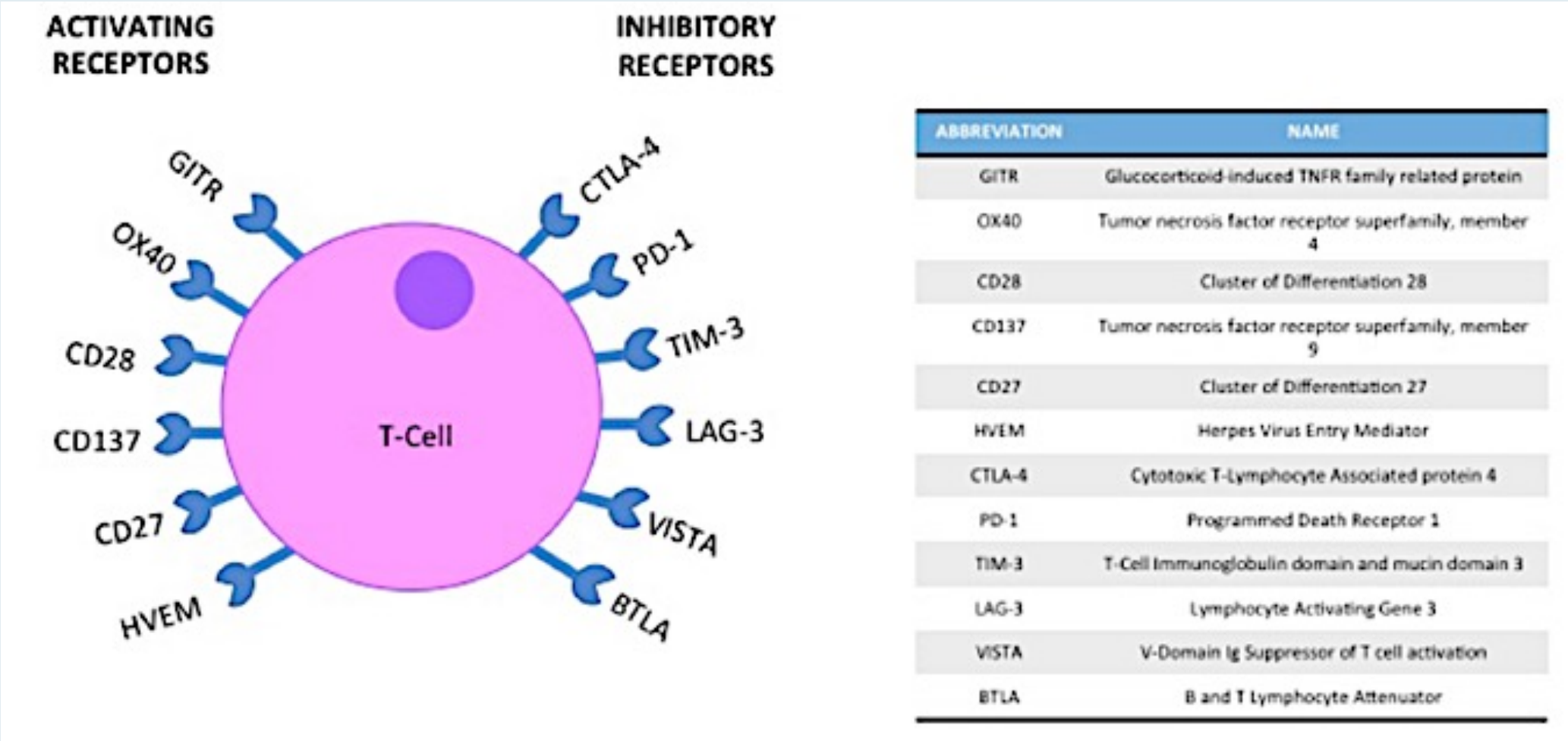
*Meetal Dharia, NP-C, AOCNP*



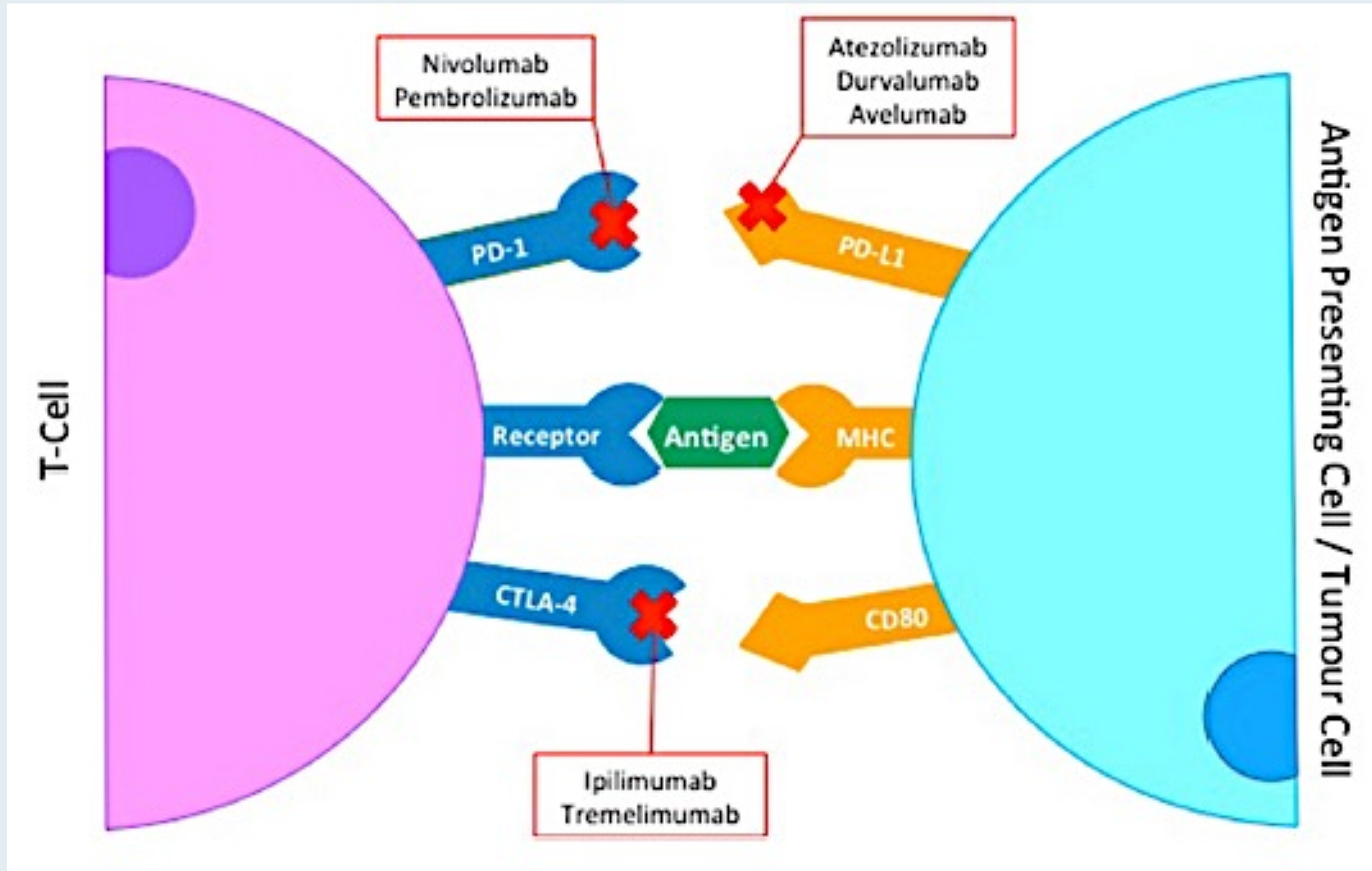
**What I tell my patients about to begin treatment with an anti-PD-1/PD-L1 antibody**

# APPENDIX

# Coinhibitory and Costimulatory Checkpoints: Key Elements of T-Cell Immune Regulation

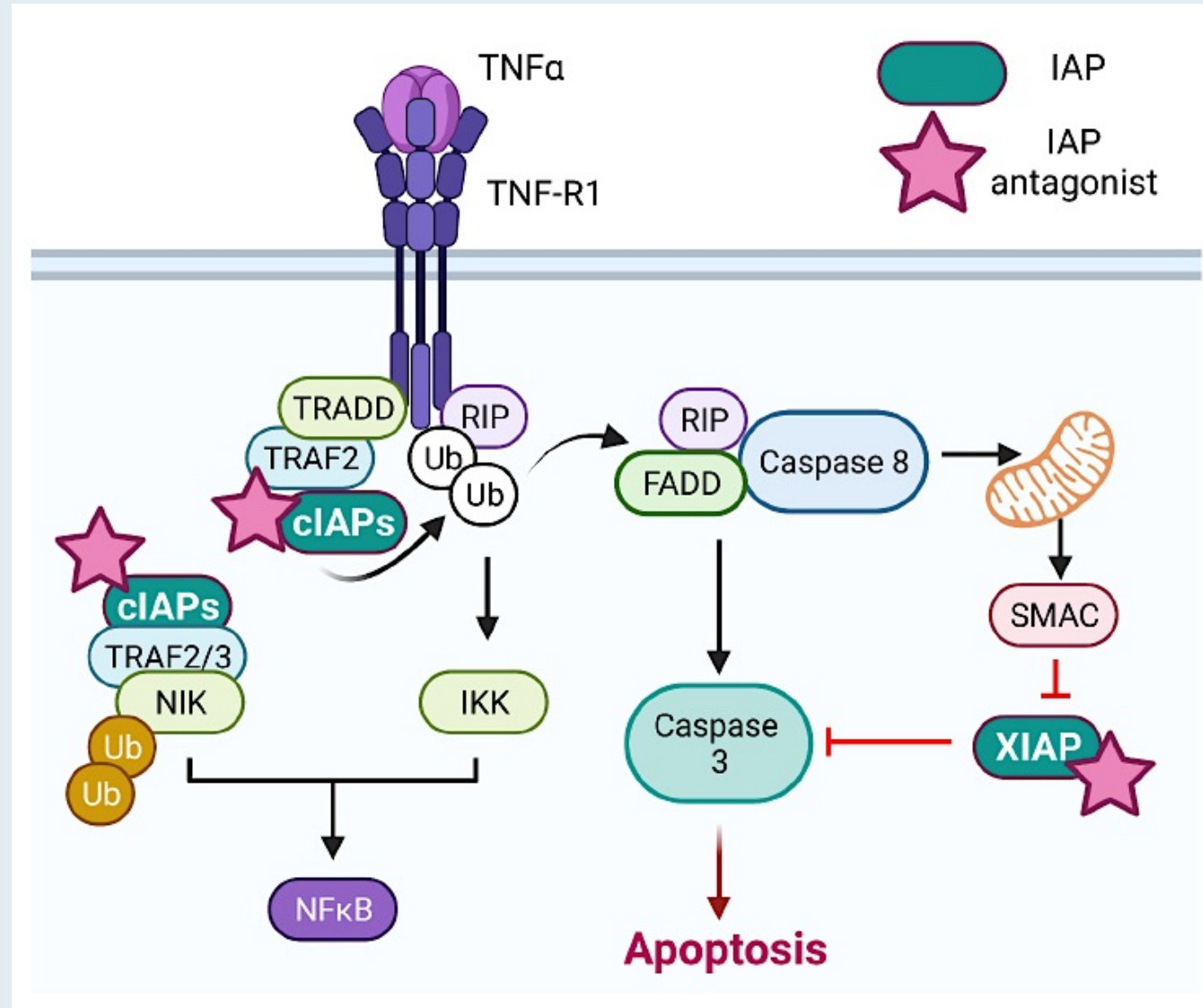


# Monoclonal Antibodies Engineered to Enhance Activation of Immune Response to Tumor Cells



# Xevinapant

# Inhibitors of Apoptosis Protein (IAP) Pathways and Activity of IAP Antagonists



# What to Tell My Patients with Head and Neck Cancer About Xevinapant and the Phase III XRAY VISION Study

- Xevinapant is a first-in-class, potent, oral, small-molecule IAP inhibitor that is thought to restore cancer cell sensitivity to apoptosis and thereby enhance the efficacy of chemotherapy and radiation therapy (RT)
- Xevinapant significantly improved efficacy with chemoradiotherapy versus placebo with chemoradiotherapy in a Phase II study of patients with unresected locally advanced SCCHN and has shown promising synergistic activity with RT in preclinical models of SCCHN, providing the rationale for evaluating xevinapant in combination with RT
- XRAY VISION is an international, randomized, double-blind, placebo-controlled, Phase III study
- Approximately 700 patients with histologically confirmed resected locally advanced SCCHN who are at high risk of relapse and are deemed ineligible to receive cisplatin will be randomized 1:1 to receive 6 cycles of treatment with oral xevinapant 200 mg/day or matched placebo (days 1-14 of a 21-day cycle), in combination with intensity-modulated RT (66 Gy [33 fractions of 2 Gy/day], 5 days per week over 6.5 weeks) for the first 3 cycles
- The primary study end point is disease-free survival
- As of August 2023, XRAY VISION was the only Phase III study that has the specific objective of improving outcomes in patients with resected locally advanced SCCHN who are at high risk of relapse and are deemed ineligible to receive cisplatin

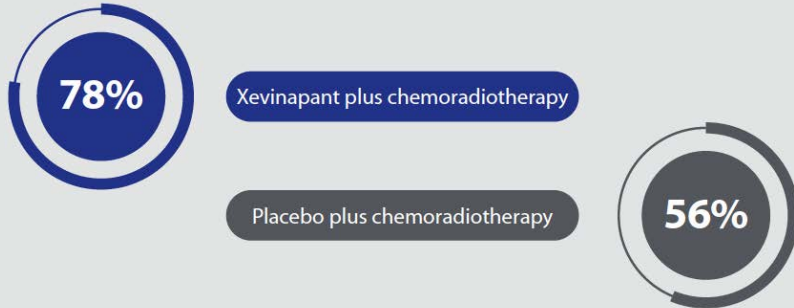


Long-term results from a clinical study of  
xevinapant plus chemoradiotherapy in people  
with high-risk locally advanced squamous cell  
carcinoma of the head and neck: a plain language  
summary

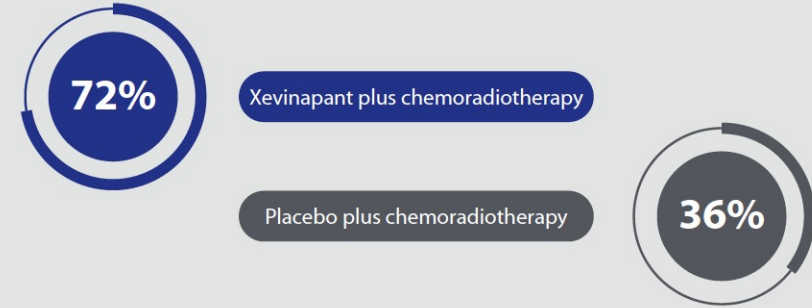
Yungan TAO<sup>1</sup>, Xu-Shan Sun<sup>2</sup>, Yoann Pointreau<sup>3</sup>, Christophe Le Tourneau<sup>4</sup>, Christian Sire<sup>5</sup>, Kathrin Gollmer<sup>6</sup>, Philippa Crompton<sup>6</sup> & Jean Bourhis<sup>7</sup>

2023 August;19(26):1769-76

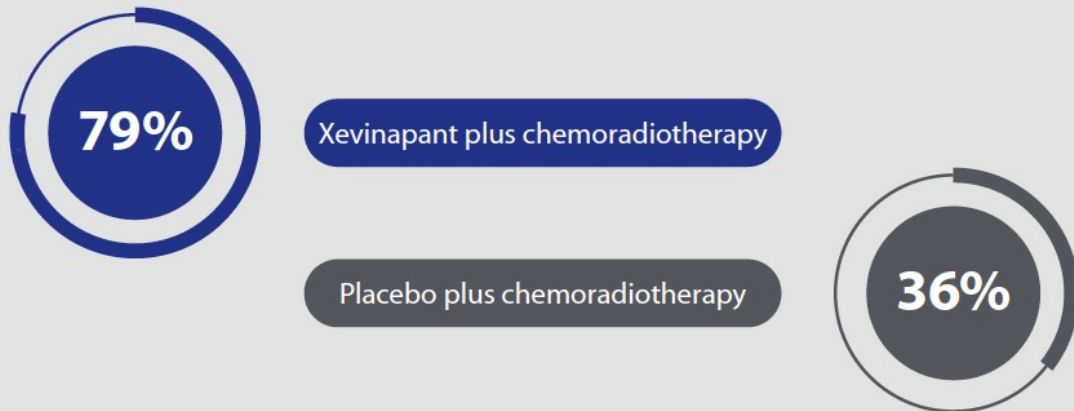
# Results of a Phase II Trial of Xevinapant with Chemoradiation Therapy for High-Risk Locally Advanced SCCHN: Survival



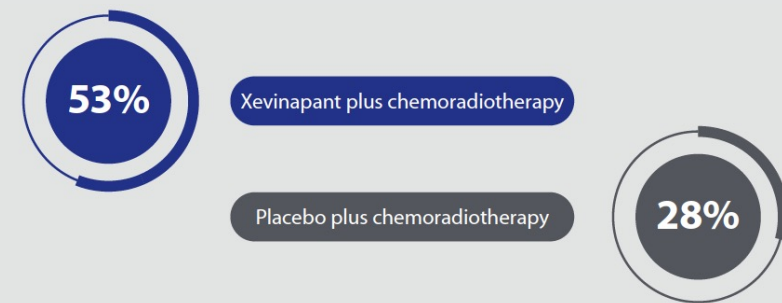
People who received **xevinapant plus chemoradiotherapy** were **54% less likely** to have their cancer grow back or get worse in the part of the body where it was first found than people treated with **placebo plus chemoradiotherapy**.



People who received **xevinapant plus chemoradiotherapy** were **67% less likely** to die or have their cancer get worse than people who received **placebo plus chemoradiotherapy**.

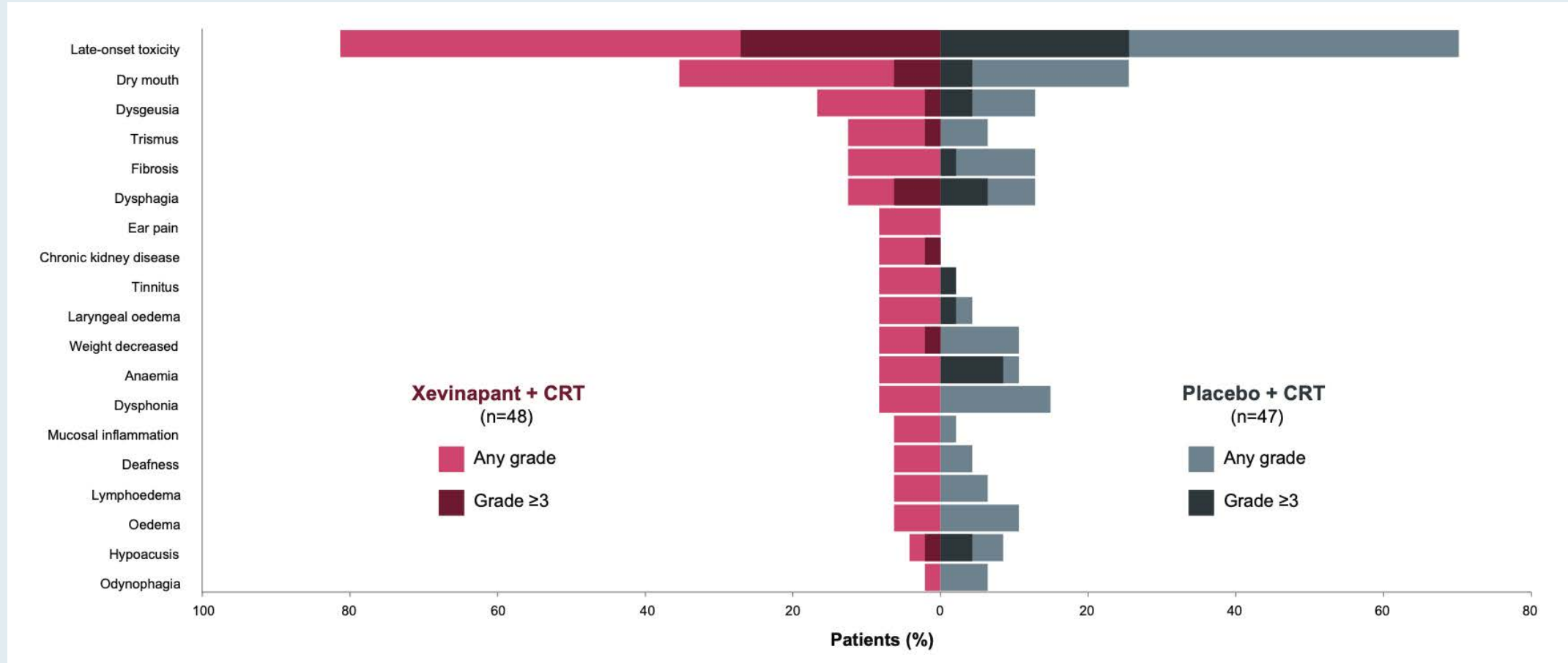


When people whose cancer shrunk or disappeared at first with treatment had received **xevinapant plus chemoradiotherapy**, they had a **79% lower risk** of their cancer getting worse or dying than people treated with **placebo plus chemoradiotherapy**.



Over 5 years of follow-up, people who were treated with **xevinapant plus chemoradiotherapy** were more than **twice as likely** to be alive than people who were treated with **placebo plus chemoradiotherapy**.

# Results of a Phase II Trial of Xevinapant with Chemoradiation Therapy for High-Risk Locally Advanced SCCHN: Safety



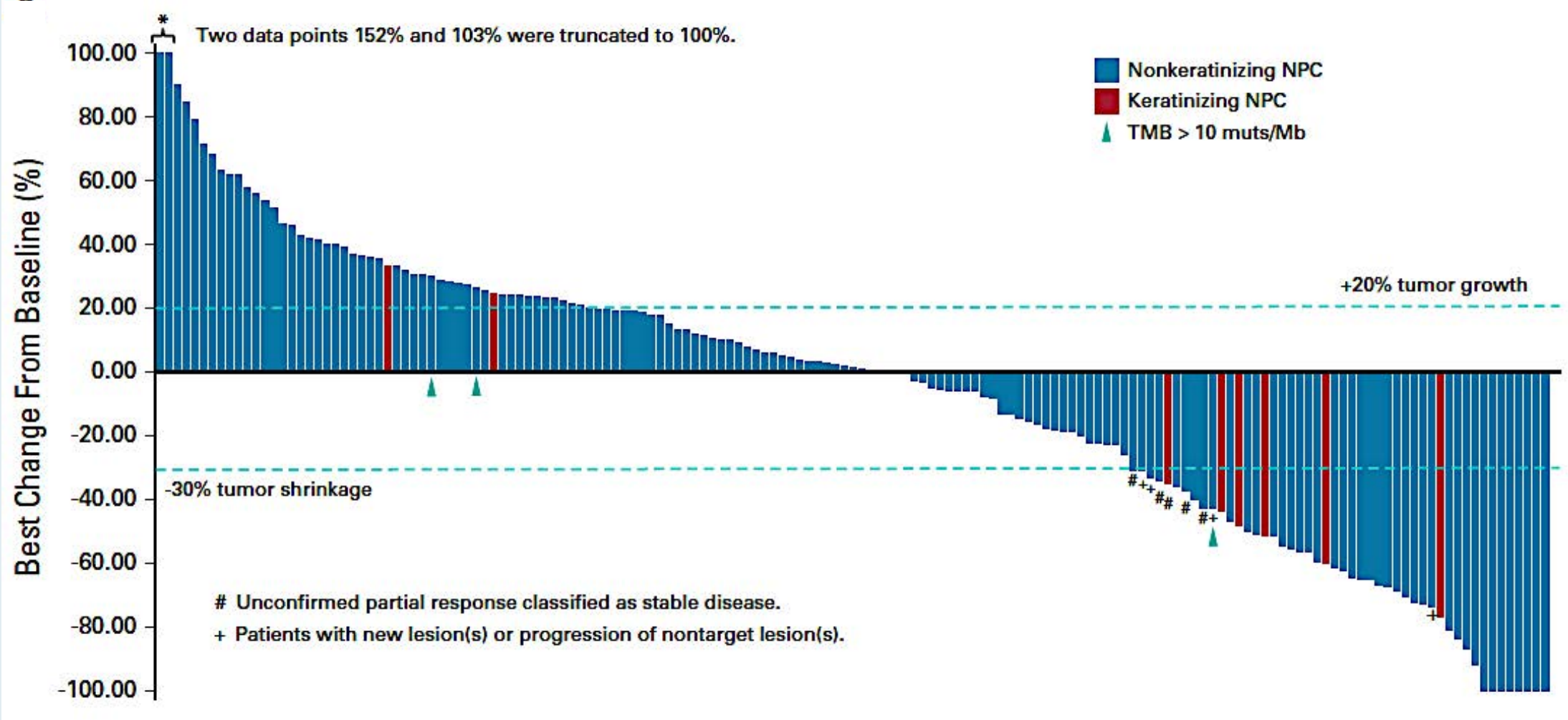
# Toripalimab

# Efficacy, Safety, and Correlative Biomarkers of Toripalimab in Previously Treated Recurrent or Metastatic Nasopharyngeal Carcinoma: A Phase II Clinical Trial (POLARIS-02)

Feng-Hua Wang, MD, PhD<sup>1</sup>; Xiao-Li Wei, MD<sup>1</sup>; Jifeng Feng, MD, PhD<sup>2</sup>; Qi Li, MD, PhD<sup>3</sup>; Nong Xu, MD, PhD<sup>4</sup>; Xi-Chun Hu, MD, PhD<sup>5</sup>; Wangjun Liao, MD, PhD<sup>6</sup>; Yi Jiang, MD, PhD<sup>7</sup>; Xiao-Yan Lin, MD, PhD<sup>8</sup>; Qing-yuan Zhang, MD, PhD<sup>9</sup>; Xiang-Lin Yuan, MD, PhD<sup>10</sup>; Hai-Xin Huang, MD, PhD<sup>11</sup>; Ye Chen, MD, PhD<sup>12</sup>; Guang-Hai Dai, MD, PhD<sup>13</sup>; Jian-Hua Shi, MD, PhD<sup>14</sup>; Lin Shen, MD, PhD<sup>15</sup>; Shu-Jun Yang, MD, PhD<sup>16</sup>; Yong-Qian Shu, MD, PhD<sup>17</sup>; Yun-Peng Liu, MD, PhD<sup>18</sup>; Weifeng Wang, PhD<sup>19</sup>; Hai Wu, PhD<sup>20</sup>; Hui Feng, PhD<sup>20</sup>; Sheng Yao, PhD<sup>20</sup>; and Rui-Hua Xu, MD, PhD<sup>1,21</sup>

*J Clin Oncol* 2021 March 1;39(7):704-12

# POLARIS-02: Maximal Change of Tumor Size from Baseline



# POLARIS-02: Common Treatment-Related Adverse Events

<b>N (%)</b>	<b>All</b>	<b>Grade 1</b>	<b>Grade 2</b>	<b>Grade 3</b>	<b>Grade 4</b>	<b>Grade 5</b>
All TRAEs	141 (74.2)	55 (28.9)	59 (31.1)	17 (8.9)	4 (2.1)	6 (3.2)
Hypothyroidism	45 (23.7)	19 (10.0)	26 (13.7)	0	0	0
Anemia	29 (15.3)	15 (7.9)	12 (6.3)	2 (1.1)	0	0
AST increased	29 (15.3)	26 (13.7)	3 (1.6)	0	0	0
ALT increased	26 (13.7)	21 (11.1)	5 (2.6)	0	0	0
Asthenia	25 (13.2)	18 (9.5)	5 (2.6)	2 (1.1)	0	0
Proteinuria	24 (12.6)	24 (12.6)	0	0	0	0
Leukopenia	19 (10.0)	8 (4.2)	11 (5.8)	0	0	0
Pyrexia	18 (9.5)	13 (6.8)	5 (2.6)	0	0	0
Pruritus	16 (8.4)	14 (7.4)	2 (1.1)	0	0	0
Rash	12 (6.3)	8 (4.2)	4 (2.1)	0	0	0
Neutropenia	10 (5.3)	6 (3.2)	3 (1.6)	1 (0.5)	0	0

# What I Tell My Patients: Integrating New Research Information into Current Clinical Care

*A Complimentary NCPD Hybrid Symposium Series Held During the 49<sup>th</sup> Annual ONS Congress*

## Head and Neck Cancer

**Friday, April 26, 2024**

**6:00 AM – 7:30 AM**

### Faculty

**Meetal Dharia, NP-C, AOCNP**

**Robert L Ferris, MD, PhD**

**Robert Haddad, MD**

**Lynsey P Teulings, APRN**

### Moderator

**Neil Love, MD**



# What I Tell My Patients: Integrating New Research Information into Current Clinical Care

*A Complimentary NCPD Hybrid Symposium Series Held During the 49<sup>th</sup> Annual ONS Congress*

## Non-Small Cell Lung Cancer with an EGFR Mutation

**Friday, April 26, 2024**

**12:15 PM – 1:45 PM**

### **Faculty**

**Marianne J Davies, DNP, ACNP, AOCNP, FAAN**

**Alexander I Spira, MD, PhD**

**Jillian Thompson, MSN, ANP-BC, AOCNP**

**Helena Yu, MD**

### **Moderator**

**Neil Love, MD**

***Thank you for joining us! Please take a moment to complete the survey currently up on Zoom. Your feedback is very important to us. The survey will remain open up to 5 minutes after the meeting ends.***

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***In-person attendees: Please refer to the program syllabus for the NCPD credit link or QR code.***

***Virtual attendees: The NCPD credit link is posted in the chat room.***

***NCPD/ONCC credit information will be emailed to each participant within 1 to 2 business days.***