Inside the Issue: Optimizing the Management of Nonmelanoma Skin Cancer

A CME/MOC-Accredited Live Webinar

Tuesday, October 3, 2023 5:00 PM - 6:00 PM ET

Faculty
Nikhil I Khushalani, MD
Anna C Pavlick, DO, MBA



Faculty



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Senior Member and Vice Chair
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Tampa, Florida



Moderator
Neil Love, MD
Research To Practice



Anna C Pavlick, DO, MBA
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Survey Participant Dr Weber — Disclosures

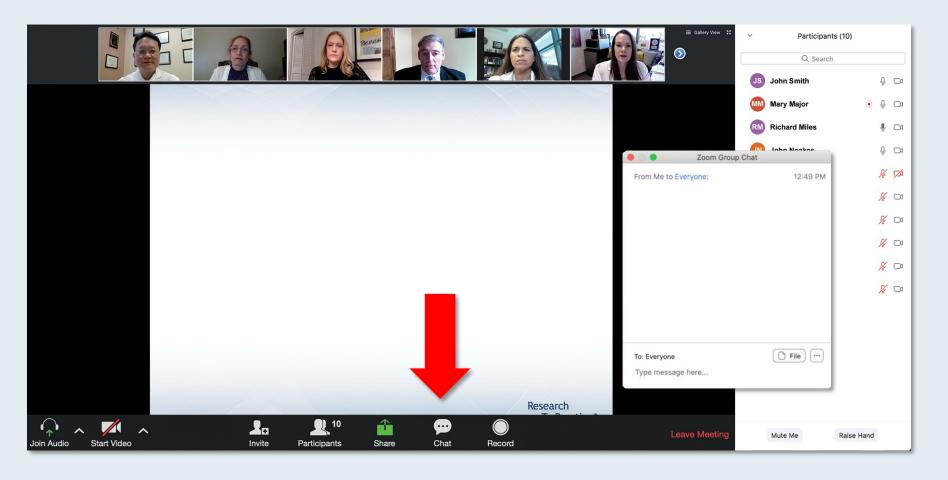
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| Patents | Moffitt Cancer Center filed a patent on an ipilimumab biomarker and on TIL preparation that I am named on, and Biodesix filed a PD-1 patent that I was named on |
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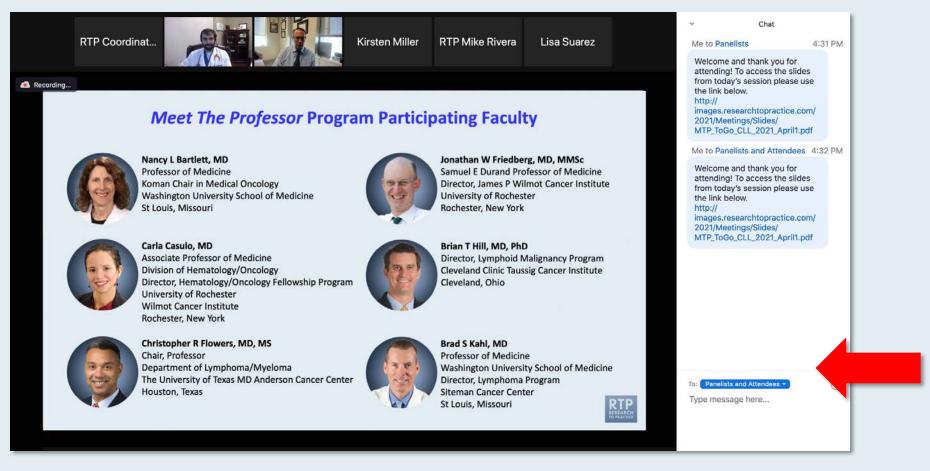


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Current Approaches and Future Strategies in Oncology

A Multitumor Educational Symposium in Partnership with Florida Cancer Specialists & Research Institute Saturday, October 7, 2023

ER-Positive Breast Cancer

7:15 AM – 8:15 AM ET

Faculty

Harold J Burstein, MD, PhD Komal Jhaveri, MD **Prostate Cancer**

8:15 AM - 9:15 AM ET

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Alicia K Morgans, MD, MPH Matthew R Smith, MD, PhD



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Gregory J Riely, MD, PhD Heather Wakelee, MD, FASCO Colorectal and Gastroesophageal Cancers

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Tanios Bekaii-Saab, MD Philip A Philip, MD, PhD, FRCP



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Chronic Lymphocytic Leukemia

11:30 AM - 12:30 PM ET

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Asher Chanan-Khan, MD
Brad S Kahl, MD



Oncology in the Real World

A Daylong Multitumor Educational Symposium in Partnership with the American Oncology Network

Saturday, October 14, 2023

Lymphoma

9:30 AM - 10:30 AM PT

(12:30 PM - 1:30 PM ET)

Faculty

Christopher R Flowers, MD, MS Ann S LaCasce, MD, MMSc

Urothelial Bladder Cancer and Renal Cell Carcinoma

10:30 AM - 11:30 AM PT

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Mitesh J Borad, MD Anthony El-Khoueiry, MD **Gynecologic Cancers**

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3:50 PM - 4:50 PM PT

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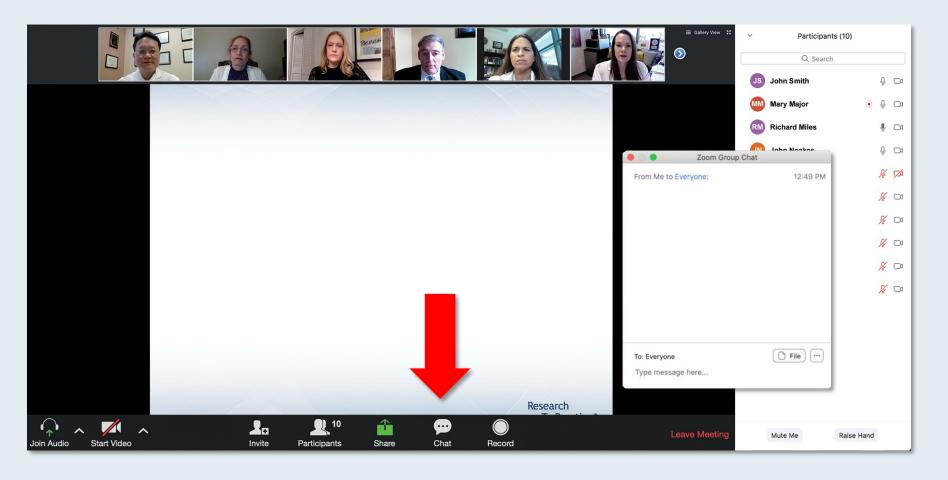
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Cutaneous Squamous Cell Carcinoma

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Assistant Center Director, Clinical Research Review and Partnerships Vice-Chair and Senior Member, Cutaneous Oncology Moffitt Cancer Center

Department of Cutaneous Oncology



Basal Cell Carcinoma

Anna C. Pavlick, DO, MBA

Weill Cornell Medicine, Professor of Medicine and Dermatology
WCM-Meyer Cancer Center, Associate Director for Clinical Research
WCM-Meyer Cancer Center, Founding Director, Melanoma and Cutaneous Oncology



Nikhil I Khushalani, MD

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Nikhil I Khushalani, MD (continued)

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Nikhil I Khushalani, MD (continued)

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Nikhil I Khushalani, MD (continued)

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Anna C Pavlick, DO, MBA

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Anna C Pavlick, DO, MBA (continued)

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Anna C Pavlick, DO, MBA (continued)

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- Brahmer JR et al. Management of immune-related adverse events in patients treated with immune checkpoint inhibitor therapy: American Society of Clinical Oncology clinical practice guideline. *J Clin Oncol* 2018 June 10;36(17):1714-68.



Agenda

INTRODUCTION: Why did it take so long?

MODULE 1: Cutaneous Squamous Cell Carcinoma – Dr Khushalani

MODULE 2: Basal Cell Carcinoma – Dr Pavlick

MODULE 3: Ongoing Clinical Trials



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How many patients with either basal cell carcinoma (BCC) or cutaneous squamous cell carcinoma (cSCC) are currently in your practice (total)?

- 1. 0
- 2. 1
- 3. 2
- 4. 3
- 5. 4
- 6. 5-10
- 7. 11-20
- 8. More than 20

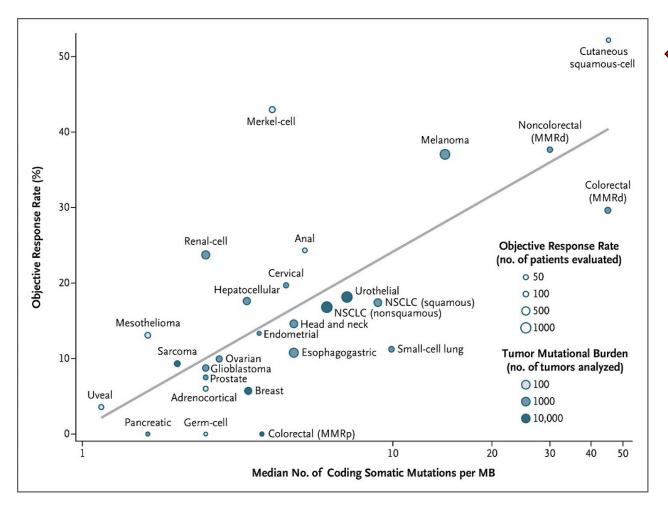


How many patients with either BCC or cSCC to whom you've administered an anti-PD-1/PD-L1 antibody have not required additional treatment for 3 or more years?

- 1. 0
- 2. 1
- 3. 2
- 4. 3
- 5. 4
- 6. 5-10
- 7. 11-20
- 8. More than 20
- 9. I have not used an anti-PD-1/PD-L1 antibody for a patient with BCC or cSCC



TMB and Response to anti-PD1 Therapy



Yarchoan M. N Engl J Med. 2017;377:2500.



Immunosuppression and Skin Cancer

| | BCC | CSCC | Melanoma | MCC | KS |
|------------|-----|--------|----------|------|---------|
| Transplant | 10 | 65-250 | 2-5 | 5-50 | 80-500 |
| CLL | 8* | 8* | 2-4 | - | - |
| HIV | 2 | 5 | 1 | 2-10 | 100,000 |

- Skin is the most common site of malignancy post solid organ transplant
- Incidence rate: 1437/100,000 person-years
 - <u>CSCC:</u> 812/100,000 person-years
 - Male, white race, increased age and thoracic organ transplant conferred higher risk

Garrett, Blanc, et al. JAMA Dermatol 2017;153:296; Collins, Quinn, et al. Dermatol Clin. 2019;37-83



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Cemiplimab: EMPOWER Study

Phase 1 (n = 26): adult patients with locally advanced or metastatic cSCC who are not candidates for surgery

Phase 2 (n = 59): cSCC with distant or regional metastases

IV cemiplimab
(3 mg/kg of body weight)
Q2W for up to 48 weeks
(phase 1) or up to 96
weeks (phase 2)

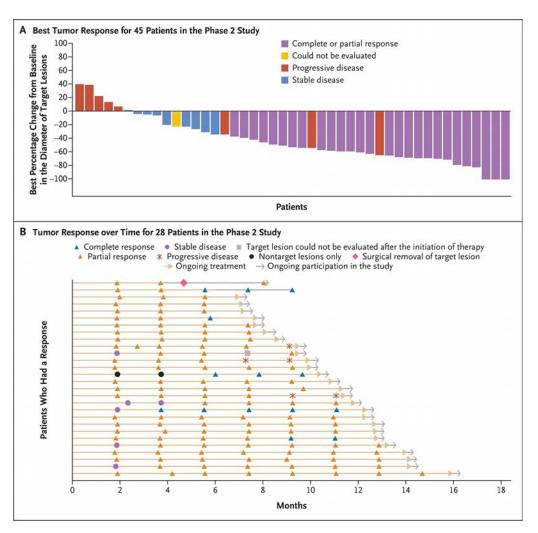
Inclusion criteria: ECOG of 0 or 1, adequate organ function, at least 1 lesion that could be measured (RECIST 1.1)

Exclusion criteria: Ongoing or recent autoimmune disease treated with systemic immunosuppressive therapy, previous treatment with anti-PD-1 or PD-L1 therapy, solid organ transplantation, concurrent cancer

Migden MR, et al. N Engl J Med. 2018;379:341



EMPOWER: Summary of Results



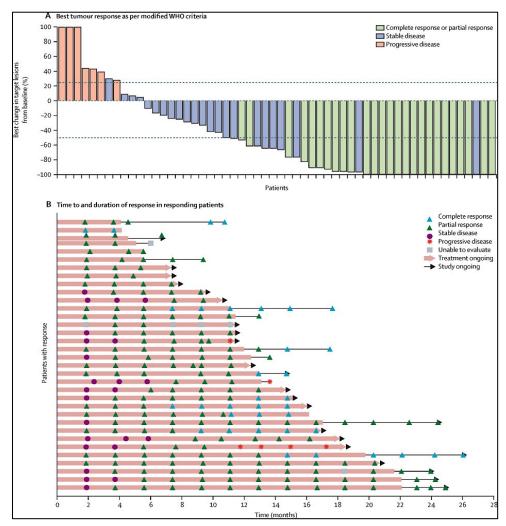
Results:

- Response Rate
- 50% in phase 1 study
- 47% in phase 2 study
- Duration of response exceeded 6 months in 57% of patients with a response
- 82% of patients with a response continued to have a response at the time of data cutoff

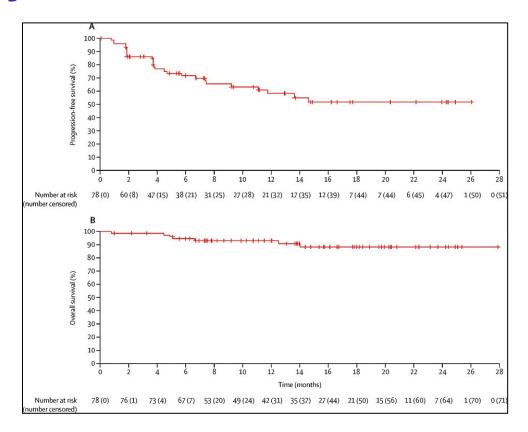




EMPOWER: Locally Advanced Cohort



Migden MR, Khushalani NI, et. al Lancet Oncol 2020;21:294



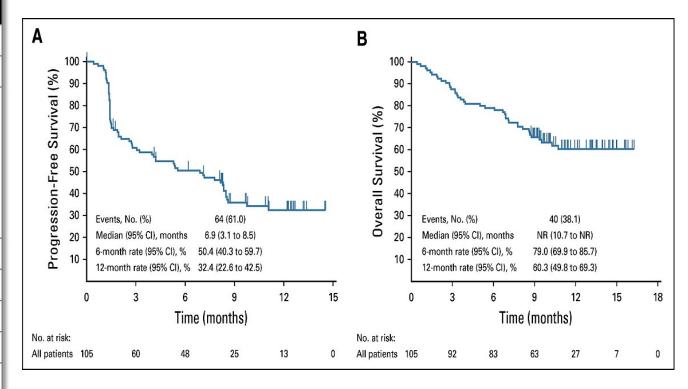
N=78; ORR 44% (13% CR)

G3/4 treatment emergent adverse events: 44%



KEYNOTE-629Pembrolizumab for Advanced CSCC

| Endpoint | Patients (N = 105) |
|---|---------------------------------|
| Median follow up | 11.4 (0.4-16.3) months |
| Objective RR | 34.3% |
| Best overall response CR PR SD Progressive disease | 3.8% 30.5% 29.5% 26.7% |
| Not evaluable Disease control (CR+PR+SD) | 1.9% 52.4% |
| SD ≥12 weeks | 18.1% |
| Median time to response | 1.5 months |
| Median DoR | NR |
| Estimated 12-month PFS/OS | 32.4%/60.3% |



Grob. J Clin Oncol 2020;38:2916



CARSKIN

Pembrolizumab for Advanced CSCC

- Phase II; chemotherapy-naive, unresectable, LA or metastatic cSCC
 - Median age: 79 years
- PEMBRO: 200 mg every 3 weeks
- Primary endpoint: ORR at 15 weeks
- Secondary endpoints: DoR, OS, PFS
- Expanded cohort (N = 57) for analysis of response by PD-L1 status

| Endpoint | Patients (n = 39) |
|---|---------------------------------|
| Objective RR | 41% (26-58) |
| Best overall response | 8 8 |
| At median follow up of 22.4 months: • PFS • DoR • OS | 6.7 months NR 25.3 months |
| Objective RR by PD-L1 status • Overall • TPS ≥1 • TPS <1 | N = 57 42% 55% 17% |

Maubec. J Clin Oncol. 2020;38:3051



Response to Pembrolizumab









Pretreatment

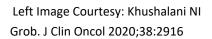
Day 15

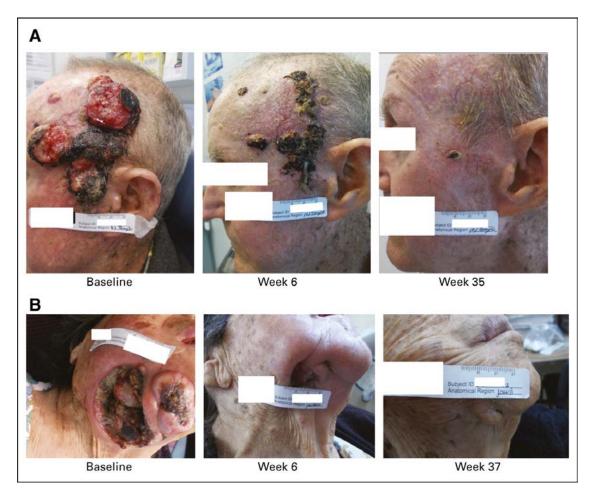
Image Courtesy: Khushalani NI



Response to Pembrolizumab









Phase II Neoadjuvant Study (CSCC)

Primary endpoint:

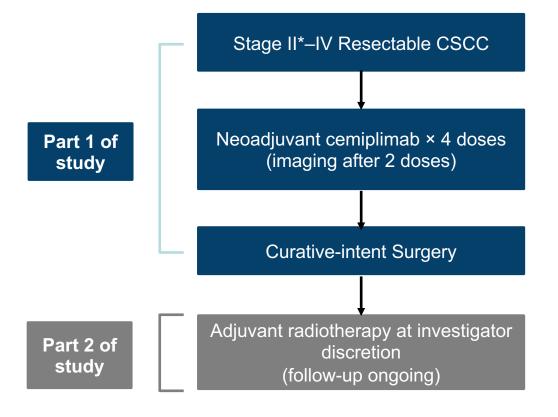
- pCR (0% viable tumor) rate per ICPR
 - null hypothesis: pCR rate = 25%

Secondary endpoints:

- MPR (>0% but ≤10% viable tumor) rate per ICPR
- pCR and MPR rates per <u>local pathology review</u>
- Radiological ORR per RECIST 1.1
- Safety and tolerability

Correlative analyses:

 Exploration of TMB and PD-L1 expression with treatment response



*Stage II required to have primary tumor ≥3 cm in an aesthetically-sensitive region.

Gross, Miller, Khushalani, et al. N Engl J Med 2022;387:1557



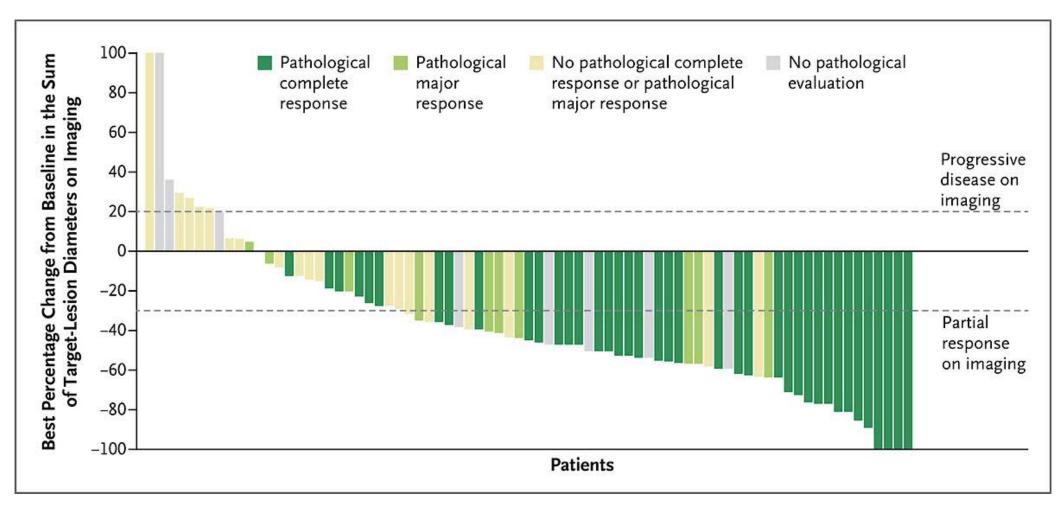
Pathologic Response

| | Neoadjuvant cemiplimab (N=79) | | | |
|---|-------------------------------|---------------------------------------|--|--|
| Pathologic response | ICPR N (%) [95% CI] | Local pathology review N (%) [95% CI] | | |
| pCR (0% viable tumor cells) | 40 (50.6) [39.1–62.1] | 42 (53.2) [41.6–64.5] | | |
| MPR (>0% and ≤10% viable tumor cells) | 10 (12.7) [6.2–22.0] | 10 (12.7) [6.2–22.0] | | |
| Combined pathologic response (pCR + MPR) | 50 (63.3) [51.7–73.9] | 52 (65.8) [54.3–76.1] | | |
| Non-pCR/MPR | 20 (25.3) | NA* | | |
| Not evaluable (no surgery) | 9 (11.4) | 9 (11.4) | | |
| Radiological response | | Local imaging review N (%) [95% CI] | | |
| Objective response rate (ORR), RECIST 1.1 Best overall response | | 54 (68.4) [56.9–78.4] | | |
| Complete response | | 5 (6.3) | | |
| Partial response | | 49 (62.0) | | |
| Stable disease | | 16 (20.3) | | |
| Progressive disease | | 8 (10.1) | | |
| Not evaluable | | 1 (1.3) | | |

Gross, Miller, Khushalani, et al. N Engl J Med 2022;387:1557



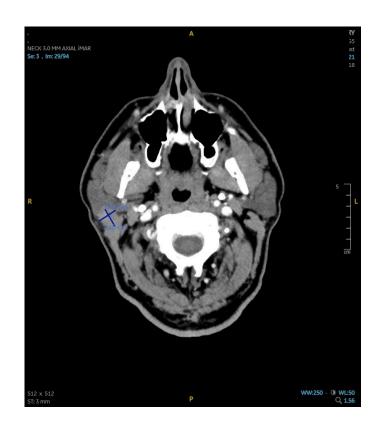
Response: RECIST and Pathology



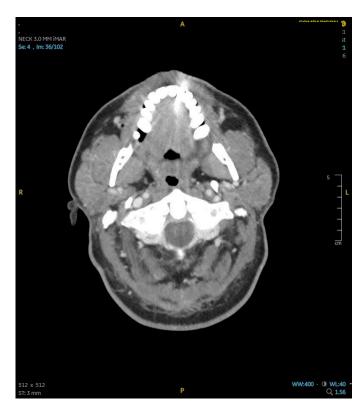
Gross, Miller, Khushalani, et al. N Engl J Med 2022;387:1557



Neoadjuvant Cemiplimab Case

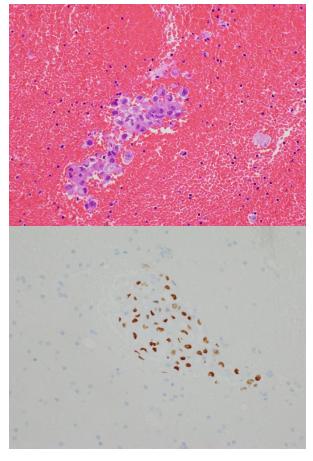


Pre-treatment

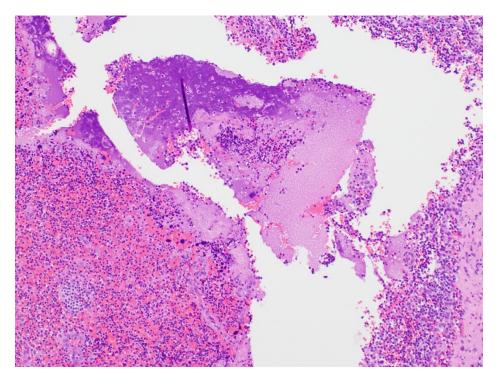


Post 4 cycles of cemiplimab





Pre-Rx FNA (H&E and p40 IHC)

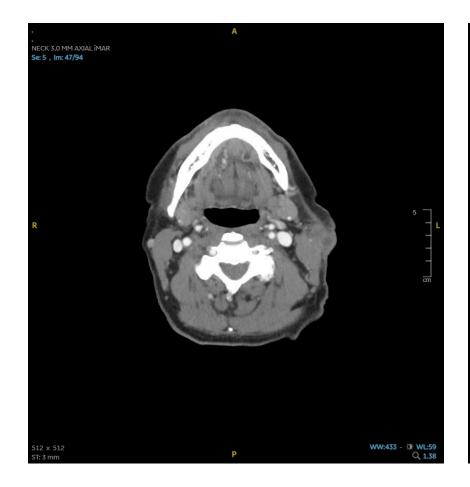


Post Rx Excision – LN with area of necrosis

Image courtesy: Ken Tsai, MD, PhD



Another case...







Post-neoadjuvant Cemiplimab: is surgery even needed?





Unanswered Questions

- Duration of neoadjuvant therapy?
- Correlation of radiographic response to pathologic response
- Need for adjuvant therapy?
- Risk-stratification by pathologic response?



Think of the last patient with cSCC to whom you administered systemic therapy for local recurrence after radiation therapy. What was their ...?

| | Age | Sex | Treatment | Outcome |
|---------------|--------------------|--------|---------------|--|
| Dr Khushalani | 78 years | Male | Cetuximab | PD after 4 cycles |
| Dr Pavlick | 79 years | Male | Cetuximab | Resolution of disease |
| Dr Hamid | 79 years | Female | Cemiplimab | Disease control and deep PR |
| Dr Lipson | 66 years | Male | Cemiplimab | Complete response per RECIST v1.1 |
| Dr Reddy | Have not done this | _ | _ | _ |
| Dr Weber | 52 years | Male | Pembrolizumab | Good response, resection with residual tumor |

For patients with locally advanced, recurrent or metastatic cSCC for whom radiation therapy or surgery is not feasible, what is your preferred anti-PD-1/PD-L1 antibody?

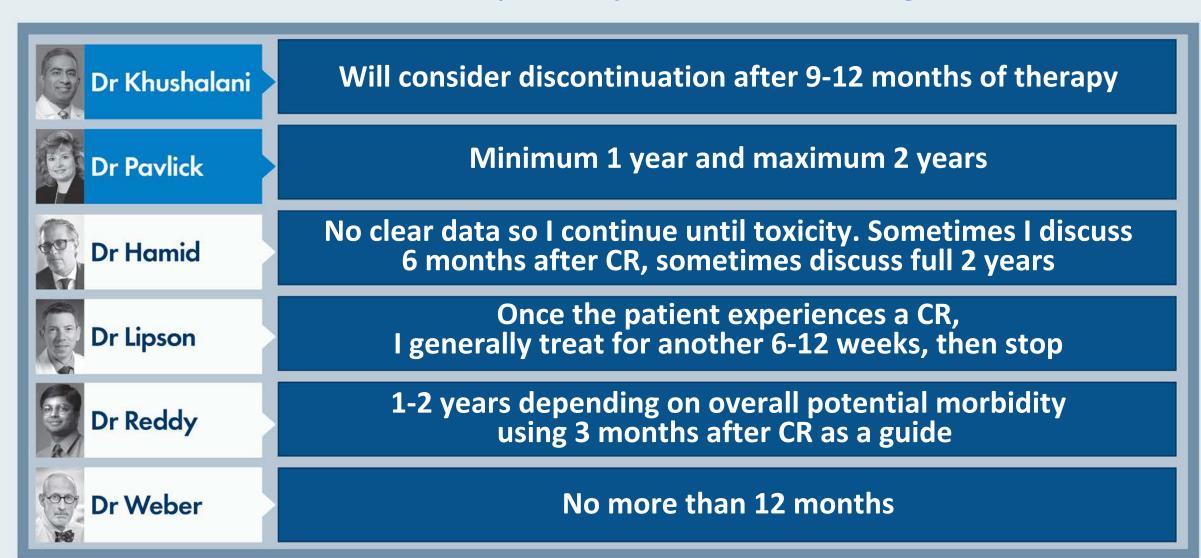
| Dr Khushalani | Cemiplimab |
|---------------|---------------|
| Dr Pavlick | Cemiplimab |
| Dr Hamid | Cemiplimab |
| Dr Lipson | Cemiplimab |
| Dr Reddy | Pembrolizumab |
| Dr Weber | Pembrolizumab |



Do you believe level of PD-L1 expression or tumor mutational burden (TMB) is useful in predicting the benefit of anti-PD-1/PD-L1 antibodies for patients with advanced cSCC?

| | PD-L1 expression | ТМВ | |
|---------------|----------------------|----------------------|--|
| Dr Khushalani | No | No | |
| Dr Pavlick | No | No | |
| Dr Hamid | No | Yes, somewhat useful | |
| Dr Lipson | No | Yes, somewhat useful | |
| Dr Reddy | Yes, somewhat useful | Yes, very useful | |
| Dr Weber | Yes, somewhat useful | Yes, somewhat useful | |

How long do you typically continue anti-PD-1/PD-L1 antibody therapy for a patient with advanced cSCC who achieves a complete response and is tolerating treatment well?





What would you estimate is the likelihood that a patient receiving an anti-PD-1/PD-L1 antibody for advanced cSCC will need to have therapy held or discontinued due to tolerability issues?

In your experience, what are the 3 most common autoimmune complications experienced by patients with advanced cSCC who are receiving anti-PD-1/PD-L1 antibody therapy?

| | Chance of hold or discontinuation | Common autoimmune complications | |
|---------------|-----------------------------------|--|--|
| Dr Khushalani | 15% | Rash, hypothyroidism, diarrhea | |
| Dr Pavlick | <5% | Rash, pruritus, hypothyroidism | |
| Dr Hamid | 15%-18% | Itching/rash, fatigue, hypothyroidism | |
| Dr Lipson | 10% | Dermatitis, thyroiditis, sicca syndrome | |
| Dr Reddy | 10%-20% | Rash, hypothyroidism, fatigue | |
| Dr Weber | 15%-20% | Skin, endocrine, GI | |

What is the age of the oldest patient with cSCC you have treated with an anti-PD-1/PD-L1 antibody? Did the patient respond to therapy? Did the patient tolerate therapy?

| | Age | Responded? | Tolerated? |
|---------------|-----------|------------|------------|
| Dr Khushalani | 92 years | Yes | Yes |
| Dr Pavlick | 101 years | Yes | Yes |
| Dr Hamid | Late 80s | Yes | Yes |
| Dr Lipson | 98 years | Yes | Yes |
| Dr Reddy | 90 years | No | Yes |
| Dr Weber | 92 years | Yes | Yes |

Have you administered an anti-PD-1/PD-L1 antibody to a patient who developed cSCC after a solid organ transplant, and if so, what was the patient's age and clinical outcome?

| Dr Khushalani | Yes, 75-year-old patient with kidney transplant had PR, but developed allograft rejection and is on dialysis, and 58-year-old patient with liver transplant expired due to PD, but without rejection |
|---------------|--|
| Dr Pavlick | No |
| Dr Hamid | No |
| Dr Lipson | Yes, for a 63-year-old patient who experienced a partial tumor response; allograft remained functional |
| Dr Reddy | Yes, for a 60-year-old patient who did not experience a response and passed away |
| Dr Weber | Yes, 59-year-old patient, rapid progression, passed away |



Have you administered an anti-PD-1/PD-L1 antibody to a patient who developed cSCC after an allogeneic hematopoietic stem cell transplant, and if so, what was the patient's age and clinical outcome?

| Dr Khushalani | No |
|---------------|--|
| Dr Pavlick | Yes; 57 years and minimal response due to continued immunosuppressants but no graft loss |
| Dr Hamid | No |
| Dr Lipson | Yes, for a 72-year-old patient who experienced disease progression and passed away |
| Dr Reddy | No |
| Dr Weber | No |



What is your usual second-line systemic therapy for a patient with advanced cSCC who has experienced disease progression on first-line anti-PD-1/PD-L1 antibody therapy?

| Dr Khushalani | Cetuximab | |
|---------------|---|--|
| Dr Pavlick | Cetuximab + chemotherapy | |
| Dr Hamid | Carboplatin + paclitaxel | |
| Dr Lipson | Cetuximab | |
| Dr Reddy | Carboplatin + paclitaxel OR Nivolumab + ipilimumab OR T-VEC | |
| Dr Weber | Cetuximab + chemotherapy | |



Do you or your institution employ intralesional therapy alone or in combination with anti-PD-1/PD-L1 antibody therapy for cSCC, and if so, what type of intralesional therapy do you employ and in which situations?

| Dr Khushalani | Yes, dermatologists have used interleukin or methotrexate alone; combination with anti-PD-1/PD-L1 therapy is on clinical trial |
|---------------|--|
| Dr Pavlick | Yes, on clinical trial; derm will inject with methotrexate and med onc has a clinical trial with RP1 and nivolumab |
| Dr Hamid | Yes, T-VEC or IL-2 |
| Dr Lipson | No |
| Dr Reddy | Yes, sometimes; T-VEC or clinical trial |
| Dr Weber | No |



Think of the last patient with cutaneous squamous cell carcinoma (cSCC) to whom you administered neoadjuvant systemic therapy. What was their ...?

| | Age | Sex | Treatment | Outcome |
|---------------|----------|--------|----------------------|--|
| Dr Khushalani | 64 years | Male | Cemiplimab | pCR |
| Dr Pavlick | 75 years | Male | Pembrolizumab | Complete pCR |
| Dr Hamid | 84 years | Female | Cemiplimab | Resection |
| Dr Lipson | 79 years | Male | Cemiplimab | Complete pathologic response |
| Dr Reddy | 80 years | Male | Radiation therapy | Faring okay |
| Dr Weber | 62 years | Female | Pembrolizumab | Excellent response, minimal resection needed |

Which anti-PD-1/PD-L1 antibody do you generally employ as neoadjuvant therapy for patients with cSCC, and how many cycles do you typically administer?

| | Preferred agent | Number of cycles | |
|---------------|-----------------|------------------|--|
| Dr Khushalani | Cemiplimab | 4 | |
| Dr Pavlick | Pembrolizumab | 2 to 3 | |
| Dr Hamid | Cemiplimab | 3 | |
| Dr Lipson | Cemiplimab | 3 to 4 | |
| Dr Reddy | Pembrolizumab | 3 | |
| Dr Weber | Pembrolizumab | 4 | |

Regulatory and reimbursement issues aside, would you present the option of adjuvant anti-PD-1/PD-L1 antibody therapy to a patient with cSCC and ... ?

| | Nodal disease with ECE | In-transit metastases | T4 lesion |
|---------------|---------------------------|--|--------------------|
| Dr Khushalani | No | No | No |
| Dr Pavlick | Yes, cemiplimab and XRT | Yes, cemiplimab | No |
| Dr Hamid | No | No | No |
| Dr Lipson | No | No | No |
| Dr Reddy | Yes, no preference | Yes, but would not encourage pembrolizumab | No |
| Dr Weber | Yes, pembrolizumab | Yes, pembrolizumab | Yes, pembrolizumab |

Regulatory and reimbursement issues aside, would you present the option of adjuvant anti-PD-1/PD-L1 antibody therapy to a patient with cSCC and perineural invasion?

| Dr Khushalani | No |
|---------------|----|
| Dr Pavlick | No |
| Dr Hamid | No |
| Dr Lipson | No |
| Dr Reddy | No |
| Dr Weber | No |

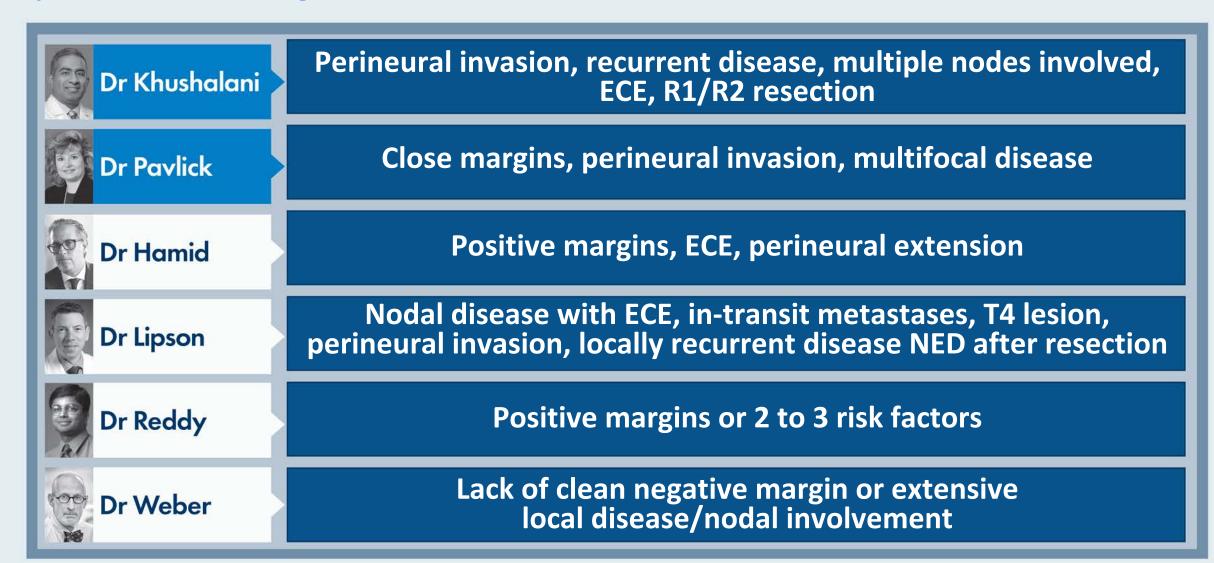


Regulatory and reimbursement issues aside, would you present the option of adjuvant anti-PD-1/PD-L1 antibody therapy to a patient with cSCC and locally recurrent disease with no evidence of disease after surgical resection?

| Dr Khushalani | No | | | |
|---------------|---|--|--|--|
| Dr Pavlick | No | | | |
| Dr Hamid | Yes, cemiplimab | | | |
| Dr Lipson | No | | | |
| Dr Reddy | Yes, I would present it as an option to the patient | | | |
| Dr Weber | Yes, pembrolizumab for a high-risk lesion | | | |



In which situations, if any, do you recommend postoperative radiation therapy for patients who undergo resection of cSCC?





Case Presentation – Dr Khushalani: A man with locally advanced cSCC



Image Courtesy: Khushalani NI



Case Presentation – Dr Khushalani: A man with locally advanced cSCC (continued)

Dramatic Response



Post one dose pembrolizumab



Post two doses of pembrolizumab



Case Presentation – Dr Khushalani: A man with locally advanced cSCC (continued)

Post 6 months therapy



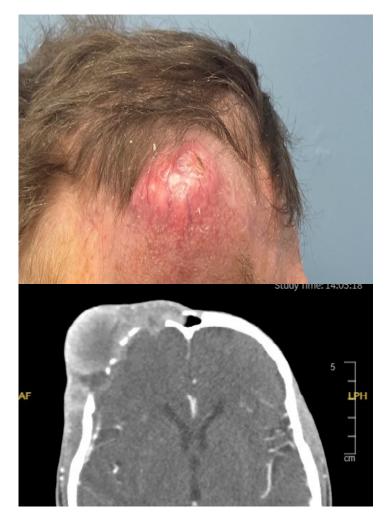
Completed 1 year of therapy with clinical CR – then lost to follow-up.

Primary irAE of G1-2 arthritis



Case Presentation – Dr Khushalani: A man in his late 60s with moderately to poorly differentiated SCC

- M/67; right forehead SCC in 2015 surgery
- 2017 local recurrence electron beam RT (52.5 Gy)
- Several additional local recurrences requiring multiple surgical resections including tangential craniectomy – pathology with moderately to poorly differentiated SCC
- In 2022 new right forehead mass; biopsy shows SCC





Case Presentation – Dr Khushalani: A man in his late 60s with moderately to poorly differentiated SCC (continued)

- Multi-disciplinary evaluation
 - Unresectable; infiltration of the dura with sub-dural collection and infiltration of the right frontal sinus
- Plan for Cemiplimab plus palliative course of IMRT due to pain and location with ocular compressive symptoms
- Re-irradiation: 40 Gy
- Dramatic clinical and radiographic response within 2 cycles of cemiplimab







Case Presentation – Dr Khushalani: A man in his late 60s with moderately to poorly differentiated SCC (continued)

- Progressive improvement in tumor and symptoms.
- Completed 12 months of Cemiplimab – now on surveillance

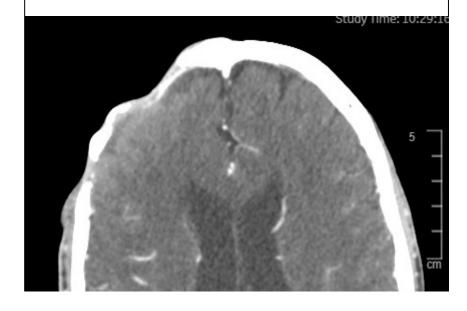






Image Courtesy: Khushalani NI



Case Presentation – Dr Khushalani: A man in his late 50s with poorly differentiated SCC

- M/57: flesh colored mass on right forearm that increased over 2 years; then developed a palpable right axillary swelling.
- CT imaging: 7.5cm X 4.4cm X 10.3cm mass of the distal forearm encasing cephalic vein; 3.9cm right axillary nodal mass
- Biopsy of right axillary mass: Poorly differentiated SCC (p40+)
- Started cemiplimab



Case Presentation – Dr Khushalani: A man in his late 50s with poorly differentiated SCC (continued)

Pre-Cemiplimab Images









Case Presentation – Dr Khushalani: A man in his late 50s with poorly differentiated SCC (continued)

Progression on Cemiplimab (4 Cycles)







Case Presentation – Dr Khushalani: A man in his late 50s with poorly differentiated SCC (continued)

Cetuximab + concurrent RT (35 fractions, 2 Gy each; forearm and axilla)



Last week of RT



Ongoing cetuximab; 4m post RT



Agenda

INTRODUCTION: Why did it take so long?

MODULE 1: Cutaneous Squamous Cell Carcinoma – Dr Khushalani

MODULE 2: Basal Cell Carcinoma – Dr Pavlick

MODULE 3: Ongoing Clinical Trials



Pathophysiology and Molecular Characteristics

- Hedgehog signaling pathway controlled by Hh genes (Sonic, Indian, Desert) is crucial to normal basal cell proliferation and dysregulated in ≥85% of BCC
- Genetic characteristics
 - Mutations in sonic Hh pathway genes: PTCH1 and SMO
 - Mutations in TP53 due to UV/radiation exposure
 - Very high TMB due to UV damage (median 47.3 mut/Mb)
 - Other mutations of interest: EGFR (38%), ERBB2, PIK3CA, RAS (all <10%)
- Molecular characteristics
 - Approximately 90% have high PD-L1 expression on IHC
 - PD-L1 intensity increases with number of prior treatment types

Hh = hedgehog; IHC = immunohistochemistry; mut/Mb = mutations per megabase; TMB = tumor mutation burden.

Cives. Int J Mol Sci. 2020;21:5394. Goodman. Oncolmmunol. 2018;7:e1404217. Habashy. Cureus. 2021;13:e13859. NCCN. Basal Cell Cancer. Version 2.2021. www.nccn.org. Nikanjam. Ann Oncol. 2018;29:2192



Molecular Pathways in BCC

Normal cell in absence of Hh

PTCH1

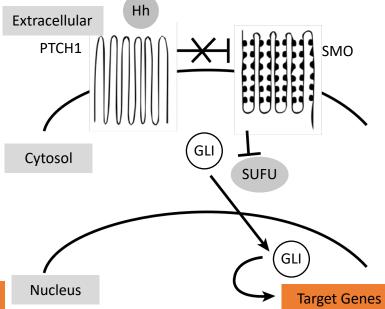
Cytosol

Cytosol

Degraded

Target Genes

GLI pathway inactivated: Autoregulation of growth Normal cell in presence of Hh



GLI pathway activated:
Proliferation and differentiation

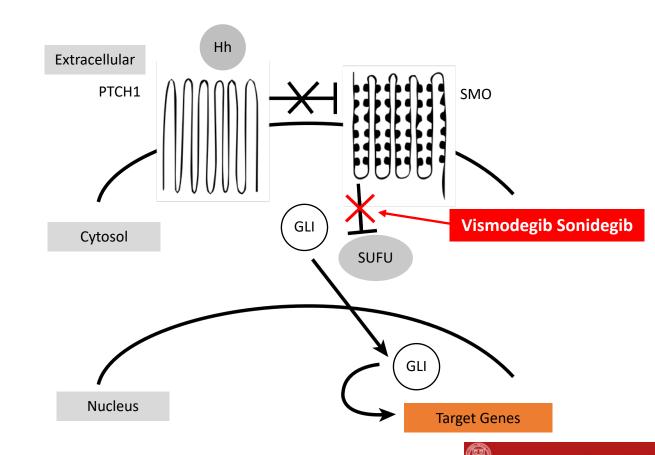
- PTCH1 or SMO mutations trigger constitutive activation of GLI downstream pathway
- TP53 mutations potentiate Hh signaling
- Frequency in advanced BCC
 - *PTCH1*: 67% to 73%
 - *TP53*: 40% to 61%
 - *SMO*: 10% to 20%
- Frequency in mBCC
 - PTCH1: 32%
 - *TP53*: 79%
 - SMO: 17%



mBCC = metastatic BCC; SUFU = suppressor of fused protein. Goodman. Oncolmmunol. 2018;7:e1404217. Nikanjam. Ann Oncol. 2018;29:2192.

Hedgehog Inhibitors

- HHIs bind the SMO receptor to prevent inactivation of SUFU and downstream activation of GLI, which facilitates restoration of normal cell regulation
- 2 HHIs currently approved for BCC
 - Vismodegib
 - Sonidegib
- Each is a once-daily oral medication





Weill Cornell

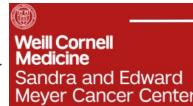
HHI = hedgehog inhibitor.

Frequent AEs With HHIs

| AE, % | Vismodegib 150 mg | | Sonidegib 200 mg | | |
|----------------------|---|--------------|------------------|--------------|--|
| | Any grade | Grade 3 or 4 | Any Grade | Grade 3 or 4 | |
| Muscle spasms | 68 | 4 | 52 | 3 | |
| Alopecia | 63 | 0 | 49 | 0 | |
| Dysgeusia | 51 | 0 | 41 | 0 | |
| Weight loss | 46 | 5 | 29 | 3 | |
| Fatigue | 36 | 4 | 29 | 4 | |
| Nausea | 29 | 1 | 35 | 1 | |
| Appetite loss | 23 | 3 | 23 | 1 | |
| Diarrhea | 22 | 1 | 30 | 1 | |
| Potential serious AE | Severe cutaneous reactions Embryo-fetal toxicity: females must use effective contraception, and males must use condom with pregnant partner or female partner of reproductive potential because of potential risk of exposure through semen Premature fusion of epiphyses | | | | |

Suggested Management of HHI AEs

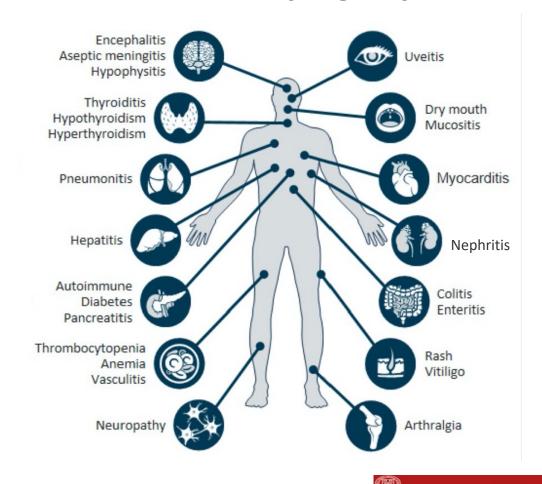
| AE | Grade 0 | Grade 1-2 | |
|------------------|--|--|--|
| Muscle spasms | Maintain hydration, gentle physical activity Sonidegib only: check creatinine kinase before/during treatment | Passive stretching, heat, cold, massage Consider CCBs, gabapentin, magnesium If abdominal: CCBs, antimuscarinics | |
| Dysgeusia | Nutrition counseling, patient education | THC or zinc supplementsCheck renal function | |
| Alopecia | Rule out other causes; consider prophylactic minoxidil or other | Camouflage (eg, wig)Minoxidil, oral DHTi, bimatoprost (eyelid) | |
| Weight loss | Nutrition counseling, patient education | Ongoing nutrition support and evaluate and correct deficiencies THC, megestrol, corticosteroids | |
| Fatigue | Maintain physical activity, yoga or other, physical rehab | Test/treat anemiaConsider psychostimulants | |
| All | Any severe (grade ≥3) or intolerable AE: Continue grade 1-2 management plus 2-4 week drug holiday or change regimen (alternate agent or alternate day/week dosing) | | |

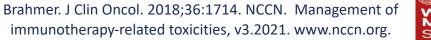


Immune Related Adverse Effects

- Unique to ICIs and related to immune system damage to healthy organs
 - Activated T-cells mistakenly attack healthy tissue
 - Inflammatory or autoimmune-type symptoms
- Maintain high level of suspicion for irAE with any changes in patient on ICI
 - Bloating or weight loss
 - Bowel, vision, or mood changes
 - Cough, dyspnea, chest pain
 - Headache
 - Rash and/or itchy skin
 - Severe fatigue or muscle weakness/pain

irAEs Can Affect Any Organ System





General Guidance for Management of irAEs

Maintain Low Threshold for Systemic Steroids With Grade 2-3 irAE

| Grade | Management* |
|------------------------|---|
| 1 (mild) | Symptomatic management (eg, topical steroid) Continue therapy (some cardiac, neurologic, or hematologic reaction may require discontinuation) |
| 2 (mild to moderate) | Symptomatic management Hold ICI for most grade 2 until resolution to grade 1; consider rechallenge after resolution; permanently discontinue if reaction reoccurs Initiate low-dose or topical corticosteroids (eg, prednisone 0.5-1.0 mg/kg/d) |
| 3 (moderate to severe) | Hold ICI Initiate high-dose corticosteroids (eg, prednisone 1-2 mg/kg/d), taper steroids over 4-6 weeks At resolution to grade ≤1, cautious rechallenge with ICI, especially in patients with early development of irAE |
| 4 (severe) | Permanently discontinue ICI, except for endocrinopathies controlled with hormone replacement |

What is your usual first-line systemic therapy for a patient with advanced basal cell carcinoma (BCC) not amenable to radiation therapy or surgery?

| Dr Khushalani | Sonidegib or vismodegib, no preference |
|---------------|--|
| Dr Pavlick | Vismodegib |
| Dr Hamid | Anti-PD-1 antibody |
| Dr Lipson | Anti-PD-1 antibody |
| Dr Reddy | Vismodegib |
| Dr Weber | Sonidegib or vismodegib, no preference |



How long do you typically continue hedgehog inhibitor therapy for a patient with advanced BCC who achieves a complete response (CR) and is tolerating treatment well?

| Dr Khushalani | Usually 9-12 months | |
|---------------|---|--|
| Dr Pavlick | If no toxicity, usually an additional 3 months past CR | |
| Dr Hamid | Indefinitely | |
| Dr Lipson | Once the patient experiences a CR, I stop hedgehog inhibitor therapy right away | |
| Dr Reddy | 3 months after CR, depending on tolerance | |
| Dr Weber | 12 months | |



What would you estimate is the likelihood that a patient receiving a hedgehog inhibitor for advanced BCC will need to have therapy held or discontinued due to tolerability issues?

In your experience, what are the 3 most common toxicities experienced by patients with advanced BCC who are receiving hedgehog inhibitor therapy?

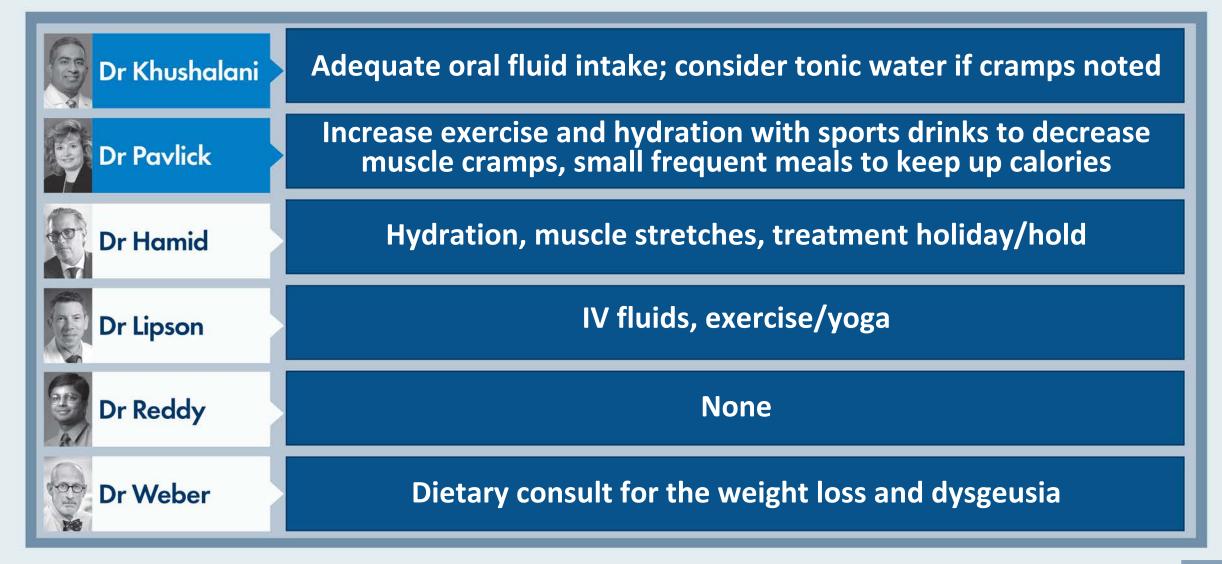
| | Chance of hold or discontinuation | Common toxicities | |
|---------------|-----------------------------------|--|--|
| Dr Khushalani | 100% | Muscle cramps, dysgeusia, fatigue and alopecia | |
| Dr Pavlick | 65% | Dysgeusia, anorexia, muscle cramps | |
| Dr Hamid | 80% | Dysgeusia, alopecia, cramps | |
| Dr Lipson | 75% | Hair loss, dysgeusia, muscle cramps | |
| Dr Reddy | 50% | Taste alterations, fatigue, bowel disturbances | |
| Dr Weber | 100% | Dysgeusia, muscle spasms, loss of hair | |

What supportive care measures do you employ to manage dysgeusia in patients receiving hedgehog inhibitor therapy?





What other supportive care measures do you employ to manage other side effects in patients receiving hedgehog inhibitor therapy?





Outside of a clinical trial, have you administered or would you administer the alternative hedgehog inhibitor to a patient with advanced BCC who had experienced disease progression on prior hedgehog inhibitor therapy?

| Dr Khushalani | I have not and would not |
|---------------|--------------------------|
| Dr Pavlick | I have not and would not |
| Dr Hamid | I have not and would not |
| Dr Lipson | I have not and would not |
| Dr Reddy | I have |
| Dr Weber | I have not and would not |



What is your usual second-line systemic therapy for a patient with advanced BCC who has experienced disease progression on first-line hedgehog inhibitor therapy?

| Dr Khushalani | ŀ | Cemiplimab |
|---------------|---|-----------------------------|
| Dr Pavlick | } | Cemiplimab |
| Dr Hamid | | Cemiplimab |
| Dr Lipson | | Cemiplimab |
| Dr Reddy | | Cemiplimab or pembrolizumab |
| Dr Weber | | Cemiplimab |



What is the longest duration of response (DoR) you have observed in a patient with advanced BCC receiving anti-PD-1/PD-L1 antibody therapy?

How long do you typically continue anti-PD-1/PD-L1 antibody therapy for a patient with advanced BCC who achieves a CR and is tolerating treatment well?

| | Longest DoR | Duration of anti-PD-1/PD-L1 therapy | |
|-------------------------|------------------------|---|--|
| Dr Khushalani | 12+ months and ongoing | Will consider discontinuation after 9-12 months | |
| Dr Pavlick | 3 years | 3 months after CR and PET/CT with no avidity | |
| Dr Hamid | 3 years | Indefinitely | |
| Dr Lipson | 5 years | Once the patient experiences a CR, I generally treat for another 12-16 weeks, then stop | |
| Dr Reddy | 6 months | 3 months after CR | |
| Dr Weber Multiple years | | At least 12 months | |

What is the age of the oldest patient with BCC you have treated with an anti-PD-1/PD-L1 antibody? Did the patient respond to therapy? Did the patient tolerate therapy?

| | Age | Responded? | Tolerated? |
|---------------|----------|------------|------------|
| Dr Khushalani | 74 years | Yes | Yes |
| Dr Pavlick | 99 years | Yes | Yes |
| Dr Hamid | 78 years | Yes | Yes |
| Dr Lipson | 97 years | Yes | Yes |
| Dr Reddy | 90 years | No | Yes |
| Dr Weber | 88 years | Yes | Yes |

How many patients with nevoid BCC syndrome (Gorlin syndrome) have you cared for?

What role, if any, do you believe anti-PD-1/PD-L1 antibodies play in treating this syndrome, and for approximately how many patients have you employed topical patidegib gel?

| | No. of patients | Role of anti-PD-1/ PD-L1 therapy | No. administered patidegib gel |
|---------------|-----------------|--|--------------------------------|
| Dr Khushalani | 2 | Similar indications as sporadic BCC | 0 |
| Dr Pavlick | 6 | Unclear | 0 |
| Dr Hamid | 2 | Therapeutic option | 0 |
| Dr Lipson | 10 | Potentially effective therapy, though little data in this patient population | 0 |
| Dr Reddy | 2 | It is worth considering | 0 |
| Dr Weber | 2 or 3 | May be useful | 0 |

Case Presentation – Dr Pavlick: A man in his late 80s with advanced BCC

- An 88-year-old man who grew up in Puerto Rico presents to the dermatologist with a non-healing ulcer on the lateral aspect of his nose.
- A biopsy is done which demonstrates invasive BCC.
- What are this man's treatment options?



Case Presentation – Dr Pavlick: A man in his late 80s with advanced BCC (continued)

The location and size of this lesion made surgery and radiation difficult and not without significant side effects. He refused surgery and Radiation therapy.





Case Presentation – Dr Pavlick: A man in his late 80s with advanced BCC (continued)

- He was started on vismodegib 150 mg po daily.
- He had a dramatic response to therapy.
- After approximately 6 months on vismodegib, he developed muscle cramps in his lower extremities that would wake him up from his sleep.
- As he had resolution of his lesion, the vismodegib was stopped and his cramps resolved.



Case Presentation – Dr Pavlick: A man in his late 80s with advanced BCC (continued)

- As the vismodegib was stopped, he was then sent to the dermatologist for several blind biopsies in the area.
- All biopsies were negative for BCC
- He remains disease free and is monitored closely by dermatology.





Case Presentation – Dr Pavlick: A man in his early 80s with advanced BCC receives cemiplimab

- An 80-year-old man who has recurrent BCC
- First diagnosed with 1.5 cm basal cell lesion on his scalp 8 years ago
 - Underwent extensive Mohs surgery to remove lesion
 - No sign of local spread
- Presents today for follow-up with concerns about a lesion in the same area
- Workup reveals
 - 5 cm lesion with poorly defined borders
 - No evidence of other lesions on full-skin exam
 - Imaging reveals no distant disease



Case Presentation – Dr Pavlick: A man in his early 80s with advanced BCC receives cemiplimab (continued)

- Patient was referred to medical oncology for a discussion of medical therapy, since he refused surgery and radiation therapy.
- He was started on a hedgehog inhibitor, but within 3 months he lost his desire to eat as food had no taste and he lost almost 20 pounds.
- The HHI was stopped and when he recovered from this toxicity, he was offered immunotherapy with cemiplimab 350mg IV every 3 weeks which he agreed to.
- He tolerated this infusion well and denied any IRAE's.
- He received treatment for nearly 2 years with complete resolution of his recurrent BCC.



Case Presentation – Dr Pavlick: A man in his early 80s with advanced BCC receives cemiplimab (continued)

Tumor Response to Cemiplimab





- A 76-year-old man who noticed a pink nodule on his right upper outer arm in July 2020. He was afraid it was cancer, so he ignored it hoping it would go away.
- The lesion continued to grow, then the COVID pandemic hit and he refused to seek any medical care for fear of contracting COVID and dying.
- In January 2022, he collapsed at home and was rushed to the ER. He was found to be septic due to an infected large fungating right upper arm mass. He recovered from the sepsis and the large fungating mass was removed. The pathology was consistent with basal cell carcinoma.



- He was referred to medical oncology and on exam was found to have a nodular, fungating mass in his right axilla with RUE edema and decreased fine motor skills in his hand.
- His metastatic work up demonstrated this right axillary mass encircling the right brachial plexus which was deemed unresectable.
- He was started on vismodegib 150 mg po daily.
- He tolerated this well except for occasional muscle cramps and hair loss.
- While on vismodegib, his right axillary mass started to grow and he developed new right chest wall nodules.
- Metastatic work up was negative for any distant disease.
- Vismo was stopped and he was started on cemiplimab.



- He had some decrease in the axillary mass, but the chest wall nodules continued to increase in size.
- Cemiplimab was stopped after 6 months due to progression of disease.
- The patient was offered a clinical trial using a herpes simplex virus vaccine that would be injected directly into his tumors in conjunction with an anti-PD-1 agent.
- The patient has been on therapy for 18 months with resolution of his chest wall nodules and improvement of his axillary mass. He continues treatment on this research study with slow but continued improvement. He has no adverse reactions throughout the course of his treatment.



Axillary mass and chest wall lesions prior to starting clinical trial.







Axillary mass and chest wall lesions after 18 months on a clinical trial with an intratumoral vaccine and systemic anti-PD-1







Agenda

INTRODUCTION: Why did it take so long?

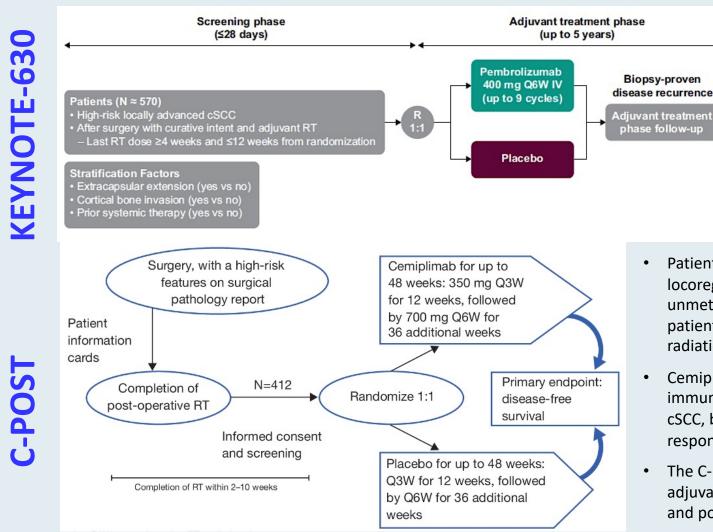
MODULE 1: Cutaneous Squamous Cell Carcinoma – Dr Khushalani

MODULE 2: Basal Cell Carcinoma – Dr Pavlick

MODULE 3: Ongoing Clinical Trials



Ongoing Phase III Trials Evaluating the Role of Adjuvant PD-L1 Antibodies in Patients with High-Risk cSCC After Surgery and RT



Summary

Crossover or retreatment phase

(up to 2 years)

Unblinding and crossover® or retreatment®

with pembrolizumab 400 mg Q6W IV

(up to 18 cycles)

No disease recurrence

- Patients with high-risk cSCC often experience relapse with locoregional recurrence or distant metastases. There is an unmet need to reduce the risk of cSCC recurrence in these patients who are not candidates for curative surgery or radiation.
- Cemiplimab, an anti-PD-1 antibody, was the first immunotherapy to demonstrate clinical benefit in advanced cSCC, based on a clinically meaningful rate of objective responses that were durable and a manageable safety profile.
- The C-POST study is evaluating the efficacy of cemiplimab as adjuvant therapy for patients with high-risk cSCC after surgery and postoperative radiotherapy.

cSCC = cutaneous squamous cell carcinoma; RT = radiotherapy



Survival

follow-up

NEO-CESQ Study: Neoadjuvant plus Adjuvant Treatment with Cemiplimab in Surgically Resectable, High Risk Stage III/IV (M0) Cutaneous Squamous Cell Carcinoma

Ascierto PA et al.

ASCO 2023; Abstract 9576.

Winship 4851-19: A Pilot Study of Neoadjuvant and Adjuvant Cemiplimab for High-Risk Cutaneous Squamous Cell Carcinoma

Lowe MC et al.

ASCO 2021; Abstract TPS9593.



A Randomized, Controlled, Open-Label, Phase 2 Study of Cemiplimab ± RP1 in Patients with Advanced Cutaneous Squamous Cell Carcinoma (CERPASS)

Haydon AM et al.

ASCO 2022; Abstract TPS9593.



An Open-Label, Multicenter, Phase 1b/2 Study of RP1, A First-in-Class, Enhanced Potency Oncolytic Virus in Solid Organ Transplant Recipients with Advanced Cutaneous Malignancies (ARTACUS)

Migden MR et al. ASCO 2022; Abstract TPS9597.

Investigation of Calcium Electroporation (CaEP) Therapy in Malignant Cutaneous and Subcutaneous Tumours: A Non-Randomized Phase II Clinical Trial of a Novel Palliative Therapy

Pervan M et al.

ESMO 2022; Abstract 1295TiP.



Nivolumab (NIVO) + Tacrolimus (TACRO) + Prednisone (PRED) +/- Ipilimumab (IPI) for Kidney Transplant Recipients (KTR) with Advanced Cutaneous Cancers

Schnek KM et al.

ASCO 2022; Abstract 9507.

Towards Organ Preservation and Cure via 2 Infusions of Immunotherapy Only, in Patients Normally Undergoing Extensive and Mutilating Curative Surgery for Cutaneous Squamous Cell Carcinoma: An Investigator-Initiated Randomized Phase II Trial — The MATISSE Trial

Zuur CL et al.

ASCO 2023; Abstract 9507.



Join Us In Person or Virtually

Current Approaches and Future Strategies in Oncology

A Multitumor Educational Symposium in Partnership with Florida Cancer Specialists & Research Institute Saturday, October 7, 2023

ER-Positive Breast Cancer

7:15 AM – 8:15 AM ET

Faculty

Harold J Burstein, MD, PhD Komal Jhaveri, MD **Prostate Cancer**

8:15 AM - 9:15 AM ET

Faculty

Alicia K Morgans, MD, MPH Matthew R Smith, MD, PhD

ModeratorNeil Love, MD



Join Us In Person or Virtually

Current Approaches and Future Strategies in Oncology

A Multitumor Educational Symposium in Partnership with Florida Cancer Specialists & Research Institute

Saturday, October 7, 2023

Non-Small Cell Lung Cancer

9:30 AM - 10:30 AM ET

Faculty

Gregory J Riely, MD, PhD Heather Wakelee, MD, FASCO Colorectal and Gastroesophageal Cancers

10:30 AM - 11:30 AM ET

Faculty

Tanios Bekaii-Saab, MD Philip A Philip, MD, PhD, FRCP

Moderator Neil Love, MD



Join Us In Person or Virtually

Current Approaches and Future Strategies in Oncology

A Multitumor Educational Symposium in Partnership with Florida Cancer Specialists & Research Institute

Saturday, October 7, 2023

Chronic Lymphocytic Leukemia

11:30 AM - 12:30 PM ET

Faculty

Asher Chanan-Khan, MD
Brad S Kahl, MD

ModeratorNeil 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 for 5 minutes after the meeting ends.

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

