Case Studies in Immunotherapy for the Treatment of Renal Cell Carcinoma

January 20, 2022
11:00 a.m. – 12:00 p.m. ET
Webinar faculty

Michael B. Atkins, MD – Georgetown Lombardi Comprehensive Cancer Center

Martin H. Voss, MD – Memorial Sloan Kettering Cancer Center

Virginia Seery, MSN, RN, ANP-BC, AOCNP – Beth Israel Deaconess Medical Center

Expert Panel Chair
Learning objectives

• Plan immunotherapy treatment regimens for challenging patient populations
• Identify management strategies for uncommon and/or atypically responsive toxicities
• Select appropriate treatment strategies for patients with relapsed and/or unresponsive disease
• Articulate the potential risks and benefits for proceeding with any other possible interventions specific to RCC in the context of an immunotherapy treatment plan
Webinar outline

• Development of the guideline
• Case 1: Clear cell RCC + sarcomatoid features with cord compression
• Case 2: Clear cell RCC with large metastatic burden including symptomatic endobronchial disease
• Toxicity Management issues
• Case 3: Metastatic RCC and Crohn’s Disease
Development of the guideline

The society for immunotherapy of cancer consensus statement on immunotherapy for the treatment of advanced renal cell carcinoma (RCC)

Brian I. Rini¹, Dena Battle², Robert A. Figlin³, Daniel J. George⁴, Hans Hammers⁵, Tom Hutson⁶, Eric Jonasch⁷, Richard W. Joseph⁸, David F. McDermott⁹, Robert J. Motzer¹⁰, Sumanta K. Pal¹¹, Allan J. Pantuck¹², David I. Quinn¹³, Virginia Seery⁹, Martin H. Voss¹⁰, Christopher G. Wood⁷, Laura S. Wood¹ and Michael B. Atkins¹⁴
Development of the guideline

• Developed according to the Institute of Medicine’s Standards for Developing Trustworthy Clinical Practice Guidelines
• Panel consisted of 18 experts in the field
• Recommendations are based upon published literature evidence, or clinical evidence where appropriate
• Consensus was defined at 75% approval among voting members
Webinar outline

• Development of the guideline
• Case 1: Clear cell RCC + sarcomatoid features with cord compression
• Case 2: Clear cell RCC with large metastatic burden including symptomatic endobronchial disease
• Toxicity Management Issues
• Metastatic RCC and Crohn’s Disease
Case discussions: First-line treatment of IMDC Intermediate/Poor risk clear cell RCC

Martin H. Voss, MD
Clinical Director, Genitourinary Oncology Service
Associate Member, Memorial Sloan Kettering Cancer Center
Disclosures

- **Consulting:** Aveo, Calithera, Corvus, Eisai, Exelixis, Genentech, GSK, Merck, Novartis, Onquality, Pfizer
- **Research funding:** BMS, Genentech, Pfizer, Novartis
- **Travel:** Medimmune, Novartis, Takeda
- **Research payments to my institution:** Aravive, Astra Zeneca, Aveo, BMS, Calithera, Corvus, Exelixis, Genentech, Merck, Novartis, Pfizer, Takeda
Case 1: 58y old man with back pain and night sweats
58M with 6wks worsening back pain and night sweats. Sensory loss b/l thighs.

- ECOG: 1
- CBC: Hgb 10.0g/dL, WBC 11K/mcL, pltls 400K/mcL, Ca wnl,
- PMH: HTN (controlled), HL

**CT Abd/Pelvis:** large L renal mass; T12 paraspinal/spinal mets; RP LAN

**CT chest:** b/l pulmonary mets up to 2.6cm longest diameter; hilar and subcarinal LAN
Spinal metastases with compression fracture, epidural disease and canal + cord compromise

Core biopsy renal mass: clear cell RCC with extensive sarcomatoid features
Clear cell RCC + sarcomatoid features with cord compression – how would you treat?

1. Spinal surgery, then axitinib + pembrolizumab after recovery

2. Spinal surgery, then XRT, then single agent nivolumab

3. Cabozantinib + nivolumab, then surgery +/- radiation

4. Ipilimumab + nivolumab, then surgery +/- radiation

5. Radiation, then temsiroliimus, then consider surgery
**Patient Selection**

Initial Therapy Treatment Recommendations

- **Need for systemic therapy?**
  - **No** → Observation and/or Local Therapy
  - **Yes** → Candidate for immunotherapy?
    - **No** → VEGFR TKI
    - **Yes** → Clear Cell Pathology

**Clear Cell Pathology**

- **IMDC Risk: Favorable**
  - Recommended: Anti-VEGF TKI/checkpoint inhibitor combination
  - Other Options: - Ipilimumab/nivolumab
    - - Anti-VEGF TKI/checkpoint inhibitor combination

**Non-Clear Cell Pathology**

- **IMDC Risk: Intermediate/Poor**
  - Recommended: Ipilimumab/nivolumab
  - Other Options: - Nivolumab/cabozantinib
    - - Axitinib/pembrolizumab

- **Sarcomatoid component**
  - Recommended: Ipilimumab/nivolumab
  - Other Options: - Anti-VEGF TKI/checkpoint inhibitor combination
    - - Cabozantinib
    - - Ipilimumab/nivolumab
    - - Anti-PD-1 monotherapy

**Papillary**

- Recommended: Ipilimumab/nivolumab

**Chromophobe**

- Other Options: - Nivolumab/cabozantinib
  - - Axitinib/pembrolizumab

**Undifferentiated**

- Other Options: - Nivolumab/ipilimumab
  - - Pembrolizumab/lenvatinib
  - - Cabozantinib

**Recommendations post-treatment with:**
- ipilimumab/nivolumab: TKI (cabozantinib, axitinib, lenvatinib/everolimus)
- cabozantinib/nivolumab: lenvatinib/everolimus, ipilimumab/nivolumab, axitinib, tivozanib
- lenvatinib/pembrolizumab: cabozantinib, ipilimumab/nivolumab, tivozanib, everolimus
- axitinib/pembrolizumab: cabozantinib, lenvatinib/everolimus, ipilimumab/nivolumab, tivozanib
Sarcomatoid features: benefits of combination therapy over TKI alone

- Forest plots showing the association of systemic therapy in metastatic renal cell carcinoma with (a) progression-free survival (PFS), (b) overall survival (OS), (c) objective response rate (ORR), (d) complete response rate (CRR).

Ipilimumab/Nivolumab vs. Sunitinib

Tannir et al., CCR 2021 Jan 1;27(1):78-86

Cabozantinib/Nivolumab vs. Sunitinib

Motzer et al. ASCO GU 2021, Abstract
Patient course

- Oct 1st: start first-line ipilimumab/nivolumab
- Oct 7th: Laminectomy with radical excision of spinal / paraspinal tumor and spinal fixation
- Oct 22nd: ipilimumab/nivolumab #2
- Grade 1 pruritus
- Oct 25th: IGRT T10-L2
- Grade 2 rash
- Nov 15th: ipilimumab/nivolumab #3
- Dec 5th: ipilimumab/nivolumab #4
- Dec 27th: CT CAP regression renal mass max diameter 12cm->9cm; reduction size thoracic LAN; resolution several pulmonary nodules
Case 1: 67 yo man with cough & weight loss
67M with involuntary weight loss, new DOE and worsening cough

- ECOG: 2
- CBC: Hgb 14.2g/dL, WBC 12.5 K/mcL, pltls 490K/mcL, corr Ca 11.2,
- PMH: DM2, OSA

**CT chest:** b/l pulmonary mets; moderate L pleural effusion; RLL bronchus ? obstructed
67M with involuntary weight loss, new DOE and worsening cough

- ECOG: 2
- CBC: Hgb 14.2g/dL, WBC 12.5 K/mcL, pltls 490K/mcL, corr Ca 11.2,
- PMH: DM2, OSA

**CT chest:** b/l pulmonary mets; moderate L pleural effusion; RLL bronchus ? obstructed

**Bronchoscopy:** RLL obstructed by endobronchial mass, partly excised; path: clear cell RCC
67M with involuntary weight loss, new DOE and worsening cough

- ECOG: 2
- CBC: Hgb 14.2g/dL, WBC 12.5 K/mcL, pltls 490K/mcL, corr Ca 11.2,
- PMH: DM2, OSA

CT chest: b/l pulmonary mets; moderate L pleural effusion; RLL bronchus ? obstructed

Bronchoscopy: RLL obstructed by endobronchial mass, partly excised; path: clear cell RCC

CT AP: large renal primary tumor with infra-hepatic IVC thrombus; bilar hepatic metastases
Clear cell RCC with large metastatic burden including symptomatic endobronchial disease – what would you do next?

1. Start ipilimumab + nivolumab
2. Start Cabozantinib monotherapy
3. Start lenvatinib + pembrolizumab
4. Start lenvatinib + everolimus
5. Refer for upfront cytoreductive nephrectomy
Patient Selection

Initial Therapy Treatment Recommendations

Diagnostic Workup

- Patient and tumor reviewed by multidisciplinary team
- Staging confirmed including pathology and imaging*

1. **Need for systemic therapy?**
   - No → Observation and/or Local Therapy
   - Yes → Candidate for immunotherapy?

2. **Candidate for immunotherapy?**
   - No → VEGFR TKI
   - Yes → Clear Cell Pathology

3. **Clear Cell Pathology**
   - IMDC Risk: Favorable
     - Recommended: Anti-VEGF TKI/checkpoint inhibitor combination
     - Other Options: - Ipilimumab/nivolumab - Anti-PD-1 monotherapy
   - IMDC Risk: Intermediate/Poor
     - Recommended: - Ipilimumab/nivolumab - Anti-VEGF TKI/checkpoint inhibitor combination
   - Sarcomatoid component
     - Options: - Anti-VEGF TKI/checkpoint inhibitor combination - Cabozantinib - Ipilimumab/nivolumab - Anti-PD-1 monotherapy
   - Papillary
     - Options: - Nivolumab/cabozanitib - Lenvatinib/everolimus - Pembrolizumab/lenvatinib - Cabozantinib
   - Chromophobe
     - Options: - Nivolumab/cabozanitib - Lenvatinib/everolimus - Pembrolizumab/lenvatinib - Cabozantinib
   - Undifferentiated
     - Options: - Nivolumab/cabozanitib - Lenvatinib/everolimus - Pembrolizumab/lenvatinib - Cabozantinib

**Recommendations post-treatment with:**
- *ipilimumab/nivolumab*: TKI (cabozantinib, axitinib, lenvatinib/everolimus)
- *cabozantinib/nivolumab*: lenvatinib/everolimus, ipilimumab/nivolumab, axitinib, tivozanib
- *lenvatinib/pembrolizumab*: cabozantinib, ipilimumab/nivolumab, tivozanib, everolimus
- *axitinib/pembrolizumab*: cabozantinib, lenvatinib/everolimus, ipilimumab/nivolumab, tivozanib
**PD rate – relevant in patients with symptomatic, high-paced disease**

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<th>KEYNOTE-426*</th>
<th>CheckMate 9ER</th>
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<td><strong>Drug</strong></td>
<td>Ipilimumab + Nivolumab</td>
<td>Axitinib + Pembrolizumab</td>
<td>Cabozantinib + Nivolumab</td>
<td>Lenvatinib + Pembrolizumab</td>
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<td><strong>Median Follow-Up</strong></td>
<td>55 months</td>
<td>30.6 months</td>
<td>18.1 months</td>
<td>26.6 months</td>
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<td><strong>Total Patients</strong></td>
<td>1096</td>
<td>861</td>
<td>651</td>
<td>1069</td>
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<td><strong>IMDC Fav/Int/Poor</strong></td>
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<td>31.9/55.1/13</td>
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<td><strong>Sarcomatoid Features (%)</strong></td>
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<td><strong>Nephrectomy status (%)</strong></td>
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<td><strong>ORR (%)</strong></td>
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<td><strong>PD (%)</strong></td>
<td>19.3</td>
<td>17.6</td>
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<td><strong>Median PFS (months)</strong></td>
<td>11.2</td>
<td>12.2</td>
<td>15.4</td>
<td>16.6</td>
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<tr>
<td><strong>PFS HR (CI)</strong></td>
<td>0.74 (0.62-0.88)</td>
<td>0.89 (0.76-1.05)</td>
<td>0.71 (0.6-0.84)</td>
<td>0.51 (0.41-0.64)</td>
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<tr>
<td><strong>OS HR (CI)</strong></td>
<td>0.65 (0.54-0.78)</td>
<td>0.69 (0.59-0.81)</td>
<td>0.68 (0.55-0.85)</td>
<td>0.6 (0.4-0.89)</td>
</tr>
</tbody>
</table>

*Data summarized for review and discussion only; not valid for cross-trial comparisons.*

Courtesy of R. Kotecha

Motzer et al., NEJM 2018; Rini et al., NEJM 2019; Motzer et al., NEJM 2019; Choueiri et al., NEJM 2021; Motzer et al., NEJM 2021
CheckMate214
Ipilimumab + Nivolumab
Motzer et al. JITC. 2020 Jul;8(2):e000891

CLEAR
Lenvatinib + Pembrolizumab
Motzer et al. NEJM. 2021 Apr 8;384(14)
CheckMate214
Ipilimumab + Nivolumab
Motzer et al. JITC. 2020 Jul;8(2):e000891

CLEAR
Lenvatinib + Pembrolizumab
Motzer et al. NEJM. 2021 Apr 8;384(14)
Patient course

- Sept 15: start first-line Lenvatinib/pembrolizumab
- Oct 6: cough notably improved; 2wks later resolved
- Oct 27: new transaminitis
- Nov: rechallenge
- Dec: CT with very good response
- Dec: Lenvatinib dose reduced (HFS, fatigue)
Webinar outline

• Development of the guideline
• Case 1: Clear cell RCC + sarcomatoid features with cord compression
• Case 2: Clear cell RCC with large metastatic burden including symptomatic endobronchial disease
• Toxicity Management Issues
• Metastatic RCC and Crohn’s Disease
Toxicity Management

Virginia Seery, MSN, RN, ANP-BC, AOCNP®
Nurse Practitioner
Beth Israel Deaconess Medical Center
Disclosures

• Advisory Board or Panel: Exelixis, Aveo
• Speaker’s Bureau: Clinigen
• Consultant: Apricity Health
RCC Treatment-Related Adverse Events

- VEGF or mTOR inhibitor monotherapy
- Nivolumab monotherapy
- Checkpoint inhibitor combination strategies
  - Combined immunotherapy
  - Immunotherapy + VEGF therapy or mTOR inhibitor
- Focus on side effects of drug class
The Spectrum of irAEs

1. Taking the brakes off the immune system can help the body fight cancer, but can also lead to toxicity from an activated immune system

2. Any organ system can be affected

VEGF Targeted Therapy AEs

- Fatigue
- HTN
- Hand-foot syndrome
- Arthralgias/myalgias
- Rash
- QTc prolongation
- Dysphonia
- Hair/skin hypopigmentation

- GI
  - Mucositis
  - Nausea
  - Diarrhea
  - Weight loss
  - Taste changes
  - Anorexia
  - Dyspepsia

Cabometyx® prescribing information, 2020;
Sutent® prescribing information, 2020; Votrient® prescribing information, 2020.
Combination therapy challenges

- May have overlapping/additive toxicities
- Determine which drug is likely etiology
- When/how to restart treatment
Skin toxicity

- Be proactive – moisturize skin daily
- Happens soon after therapy starts
- Pruritus without rash seen
- Topical steroids/oral antihistamines are often used
- Decision to continue or hold IO therapy depends on grade of skin toxicity/rash (i.e. % BSA involved or mucosal involvement)
- Possible hold of IO for grade 2
- Hold IO for grade 3/4 toxicity
- Oral or IV steroids to treat grade 3/4 toxicity or persistent grade 2
Liver toxicity

- Higher incidence with IO and VEGF TKI combinations
- Tends to occur around week 6-7
- Hold for grade 2 or higher LFTs
- Frequent recheck of LFTs
- Steroid use for symptomatic grade 2 or grade 3/4
- Taper steroids slowly
- If secondary immunosuppression needed, avoid infliximab due to potential for liver toxicity
Hand foot syndrome

- Proactive: Moisturizers, urea based creams
- Gel insoles
- Avoid extreme temperatures of hands/feet
- Avoid overuse
- Treatment:
  - Hold therapy early
  - Topical steroid cream
  - Consider dose reduction
Fatigue

- Common issue for RCC patients (anemia, stress, therapy AEs)
- Check thyroid, adrenal and pituitary function
- Balance rest with activity
- Ensure adequate sleep (symptom control)
- Stimulants may help
Toxicity management

Multidisciplinary approach is key

Goals:
- Allow restart of effective therapy
- Minimize new issues
- Maintain good quality of life
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• Case 1: Clear cell RCC + sarcomatoid features with cord compression
• Case 2: Clear cell RCC with large metastatic burden including symptomatic endobronchial disease
• Toxicity Management Issues
• Metastatic RCC and Crohn’s Disease
Case: 62 yo man with metastatic RCC and Crohn’s Disease

Michael B. Atkins, M.D.  
Deputy Director  
Georgetown-Lombardi Comprehensive Cancer Center  
William M. Scholl Professor and Vice-Chair  
Department of Oncology  
Georgetown University Medical Center
Disclosures/ Potential Conflicts

Consultant:
BMS, Merck, Novartis, Genentech/Roche, Pfizer, Exelixis, Eisai, Aveo, Arrowhead, Agenus, Iovance, ImmunoCore, Neoleukin, SeaGen, AstraZeneca, Calithera, Sanofi

Advisory Boards:
Novartis, Pfizer, Merck, BMS, Pyxis Oncology, Werewolf, Genentech/Roche Adagene, Elpis, Asher Bio, Idera

Research Support (to institution):
BMS, Merck, Pfizer, Genentech/Roche, Moderna, Calithera

Stock Options: Werewolf and Pyxis Oncology

Other: UpToDate: Melanoma, RCC and Immunotherapy Sections Editor

Last 36 Mos
RCC Case (History 1)

- 62 yo man with 7 year h/o Crohn’s Disease Rx’ed with intermittent azathioprine and steroids with response, presented with abd pain, weight loss and fatigue
- Abd MRI: 12 cm R upper pole renal mass with paracaval adenopathy
- R radical nephrectomy revealed a 12 cm ccRCC with 90% sarcomatoid features; 2/6 LNs + (T3a N1a M0); declined adjuvant Rx
- 2 mos post-op: he has night sweats, anorexia; CT CAP showed 4.4 cm mass in R Nx bed, sub-cm pulm nodules and abd LNs

- How would you treat?
How would you treat?

- Sunitinib/Pazopanib
- Cabozantinib
- Ipilimumab/Nivolumab
- Axitinib/Pembrolizumab
- Other
RCC Case History (2)

- Patient started on cabozantinib 60 mg daily by outside oncologist
- Symptoms persisted and CT scan 12 weeks into treatment showed significant interval progression
R Nx Bed Lesion

4/2018
How would you treat?

- Lenvatinib + everolimus
- Lenvatinib + Pembro
- Ipilimumab/Nivolumab
- Nivo monotherapy
- Other
RCC Case History (3)

- He was begun on nivo monotherapy
- Underwent colonoscopy at baseline and q3months
- Symptoms rapidly improved, he regained energy and the previously lost weight
- Scans showed major response
- He experienced rash, joint pains, feet parasthesias, but no Crohn’s flare
Abdominal Nodes
R Nx Bed Lesion

4/2018

4/2020
How would you manage?

- Continue nivolumab with support meds for irAEs
- Switch to Lenvatinib +everolimus
- Evaluate for residual disease to potentially stop nivo
- Stop nivo and observe
- Other
RCC Case History (4)

• PET-CT showed residual uptake in nephrectomy bed lesion
• Biopsy of residual Nx bed lesion after 2 years of Rx showed no cancer.
• Treatment stopped; patient observed q 3 months
• No disease progression observed, now > 20 months later.
Topics to Discuss

• Anti-PD1 monotherapy in the front-line
• Stopping Treatment Decisions
CM-025: Response Characteristics


ORR: 25% (21.5% confirmed) Nivo vs. 5% Everolimus
Overall survival by subgroup analyses

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<th>Subgroup</th>
<th>Nivolumab n/N</th>
<th>Everolimus n/N</th>
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<td>Intermediate</td>
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<td>Poor</td>
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<td>Rest of the world</td>
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Analyses based on interactive voice response system data.
Overall Survival

- **CheckMate 025**

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- **CheckMate 025**

<table>
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<tr>
<th>Median, mo (95% CI)*</th>
<th>NIVO</th>
<th>EVE</th>
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<tbody>
<tr>
<td>25.8 (22.2–29.8)</td>
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<td>19.7 (17.6–22.1)</td>
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</table>

- **HR (95% CI)**

| HR (95% CI) | 0.73 (0.62–0.85) |
| P value     | < 0.0001         |

Motzer et al. Cancer 2020 Sep 15;126(18):4156-4167
HCRN GU16-260: Study Design

IIT at 12 sites conducted through the HCRN GU Group (CM209-669)

Metastatic RCC Treatment Naïve
• 120 ccRCC
• 40 nccRCC

Part A

Biopsy

Nivo
240 mg q2wks x 6;
360 mg q 3wks x 4
480 mg q 4 wks

PR or CR

Continue Nivo for up to 96 total wks

PD or best response
SD @ 48 wks

Nivo 3mg/kg +
Ipi 1 mg/kg q 3 wks x 4 then
Nivo maint for up to 48 wks

Biopsy

Part B

Extensive Biomarker studies in collaboration with
the DFHCC Kidney Cancer SPORE
DOD Translational Partnership Grant (Atkins, Wu)

Scans q12 weeks; Confirm response and PD;
Measurements by RECIST 1.1
Mandatory biopsies

### Objective Response Rates: Nivo Monotherapy (Part A)

<table>
<thead>
<tr>
<th>Best Response N (%)</th>
<th>IMDC Risk Category (N)</th>
<th>Total (N= 123) N (%)</th>
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<tr>
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<td>Favor (30) N (%)</td>
<td>Interm (80) N (%)</td>
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<td>4 (13.3)</td>
<td>3 (3.8)</td>
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<td>PR*</td>
<td>11 (36.7)</td>
<td>17 (21.2)</td>
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<td>SD</td>
<td>15 (50.0)</td>
<td>26 (32.5)</td>
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<td>PD</td>
<td>0</td>
<td>34 (42.5)</td>
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<tr>
<td>ORR</td>
<td>15/30 (50)</td>
<td>20/80 (25)</td>
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<tr>
<td></td>
<td>(95% CI) %</td>
<td>(16.6, 35.1)</td>
</tr>
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</table>

**ORR: 39/123 = 31.7%**
*95% CI (23.6, 40.7%)

**Sarcomatoid RCC ORR:**
*7/22 = 31.8% (all PRs)*
*95% CI (13.9, 54.9%)

*1 PR with missing IMDC Risk Category*
Duration of Response: Nivo Monotherapy (Part A)

**Median DOR (95% CI)**
19.3 (10.9, NA) mos

**DOR n/events, median (95% CI) =**
39/12, 19.3 (10.9, NA) mos

**IMDC = Fav., median (95% CI) =**
15/1, NR (5.5, NA) mos

**IMDC = Int./Poor, median (95% CI) =**
23/11, 11.0 (6.9, NA) mos
Patient and tumor reviewed by multidisciplinary team
- Staging confirmed including pathology and imaging*

### Need for systemic therapy?
- No: Observation and/or Local Therapy
- Yes:
  - **Candidate for immunotherapy?**
    - No: VEGFR TKI
    - Yes:
      - **Clear Cell Pathology**
        - IMDC Risk: Favorable
          - Recommended: Anti-VEGF TKI/ checkpoint inhibitor combination
          - Other Options: Ipilimumab/nivolumab
        - IMDC Risk: Intermediate/Poor
          - Options: 1) Ipilimumab/nivolumab 2) Anti-VEGF TKI/ checkpoint inhibitor combination 3) Anti-PD-1 monotherapy
        - IMDC Risk: Poor
      - **Non-Clear Cell Pathology**
        - Sarcomatoid component
          - Options: 1) Nivolumab/cabozanitib 2) Cabozantinib 3) Ipilimumab/nivolumab 4) Anti-PD-1 monotherapy
        - Papillary
          - Options: 1) Ipilimumab/nivolumab 2) Nivolumab/cabozantinib 3) Pembrolizumab/TKI (lenvatinib or axitinib)
        - Chromophobe
          - Options: 1) Nivolumab/ipilimumab 2) Nivolumab/cabozantinib 3) Pembrolizumab/TKI (lenvatinib or axitinib)
        - Undifferentiated
          - Options: 1) Ipilimumab/nivolumab 2) Nivolumab/ipilimumab 3) Pembrolizumab/TKI (lenvatinib or axitinib)

### Recommendations post-treatment with:
- **Ipilimumab/nivolumab**: TKI (cabozantinib, axitinib, lenvatinib/everolimus), HD-IL2
- **Cabozantinib/nivolumab**: Lenvatinib/everolimus, ipilimumab/nivolumab, axitinib, tivozanib, clinical trial
- **Lenvatinib/pembrolizumab**: Cabozantinib, ipilimumab/nivolumab, tivozanib, everolimus
- **Axitinib/pembrolizumab**: Cabozantinib, lenvatinib/everolimus, ipilimumab/nivolumab
Stopping Therapy:
Lessons From Melanoma Population
Melanoma pt off treatment survival (OTS) following Rx DC by reason

OS for pts with Tx DC for Pt/Provider decision (n=20: 1 PD, 1 death - non mel related)

TFS = Travel Full Survival - Survivors into “Thrivers”
A Phase II Study of Biomarker Driven Early Discontinuation of Anti-PD-1 Therapy in Patients with Advanced Melanoma (PET-Stop): EA6192

https://www.clinicaltrials.gov/ct2/show/NCT04462406

Geoff Gibney PI- Open 9/2020
Take Home Messages

• Nivo monotherapy represents an alternative therapeutic approach
  – Particularly for patients at high risk of ipilimumab toxicity (e.g. autoimmune conditions)

• Stopping immunotherapy is possible in major responders and can turn survivors into thrivers
  – PET-CT and biopsy can aid decision making
Case Studies in Immunotherapy for the Treatment of Head and Neck Squamous Cell Carcinoma

January 26, 2022, 2 – 3 p.m. ET

Learn more and register at: https://www.sitcancer.org/CPG-webinars
Targets for Cancer Immunotherapy: A Deep Dive Seminar Series

Eight online seminars will address key questions in the field of cancer immunotherapy drug development

FINAL SESSION!

SEMINAR 8: T CELL SELECTION FOR ADOPTIVE CELL THERAPY
January 25, 2022, 11:30 a.m. – 1:30 p.m. ET

Learn more and register at:
https://www.sitcancer.org/education/deepdive
A Focus on Intratumoral Therapies, Vaccines, and Cytokines

January 27, 2022, 12 – 4 p.m. ET

CME-, CPE-, CNE-, MOC-certified

Learn more and register at:
https://www.sitcancer.org/education/aci
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Thank you for attending the webinar!

Questions or comments: connectED@sitcancer.org

The Practical Management Pearls and Case Studies Webinars are part of the Cancer Immunotherapy Clinical Practice Guidelines Advanced Webinar Series supported, in part, by grants from Amgen and Merck & Co., Inc. (as of 9/15/2021)