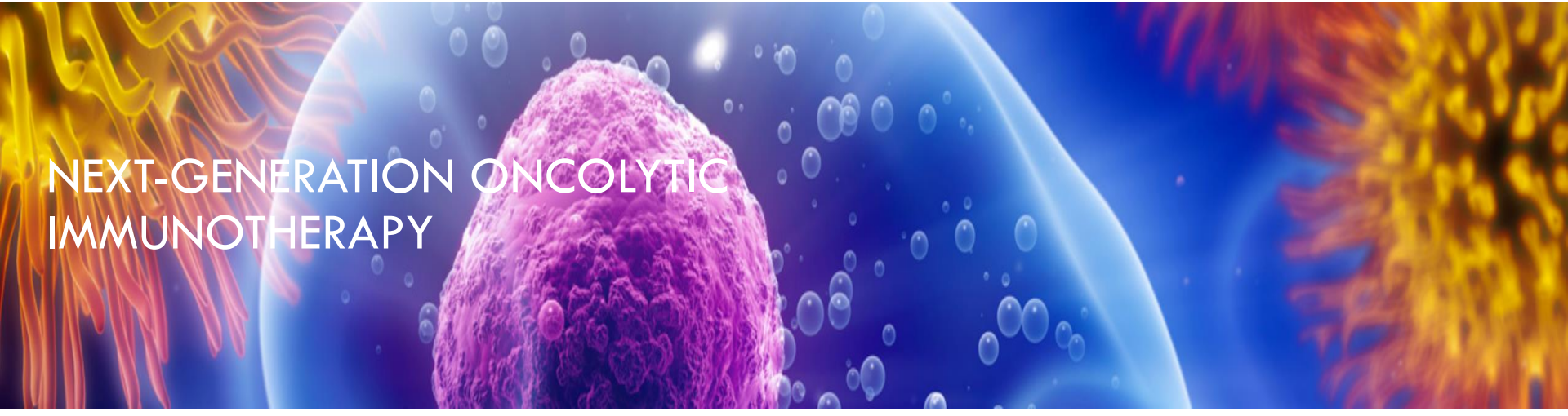
Replimune



Summary of CSCC patients treated so far in Replimune's Phase 1/2 clinical trial of RP1 alone & in combination with Opdivo in a range of solid tumor types

October 2019

Safe harbor

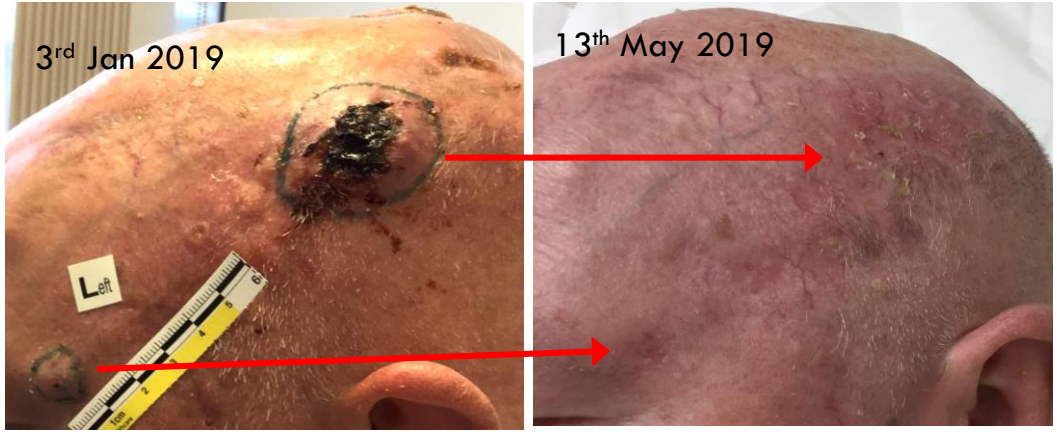
Any statements contained herein that are not statements of historical facts may be deemed to be forward-looking statements within the meaning of Section 27A of the Securities Act of 1933, as amended, and Section 21E of the Securities Exchange Act of 1934, as amended, including statements regarding our expectations about our use of cash, our advancement of our clinical trials, our goals to develop and commercialize our product candidates, our plans to establish our own in-house manufacturing capabilities, our proposed scientific presentations, and other statements identified by words such as "could," "expects," "intends," "may," "plans," "potential," "should," "will," "would," or similar expressions and the negatives of those terms. Forward-looking statements are not promises or guarantees of future performance, and are subject to a variety of risks and uncertainties, many of which are beyond our control, and which could cause actual results to differ materially from those contemplated in such forward-looking statements. These factors include risks related to our limited operating history, our ability to generate positive clinical trial results for our product candidates, the costs and timing of establishing, equipping, and operating our planned in-house manufacturing facility, the timing and scope of regulatory approvals, changes in laws and regulations to which we are subject, competitive pressures, our ability to identify additional product candidates, and other risks set forth under the heading "Risk Factors" of our Annual Report on Form 10-K for the year ended March 31, 2019. Our actual results could differ materially from the results described in or implied by such forward-looking statements. Forward-looking statements speak only as of the date hereof, and, except as required by law, we undertake no obligation to update or revise these forward-looking statements.

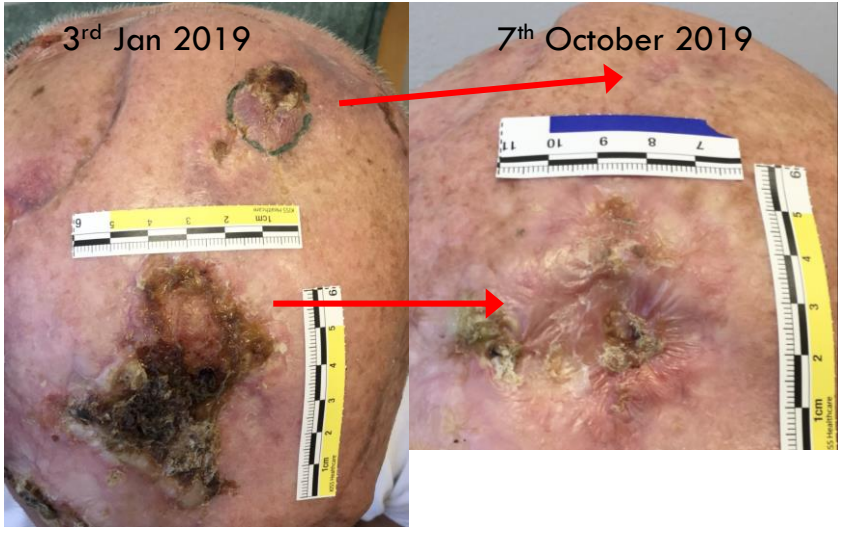
CSCC patients enrolled so far

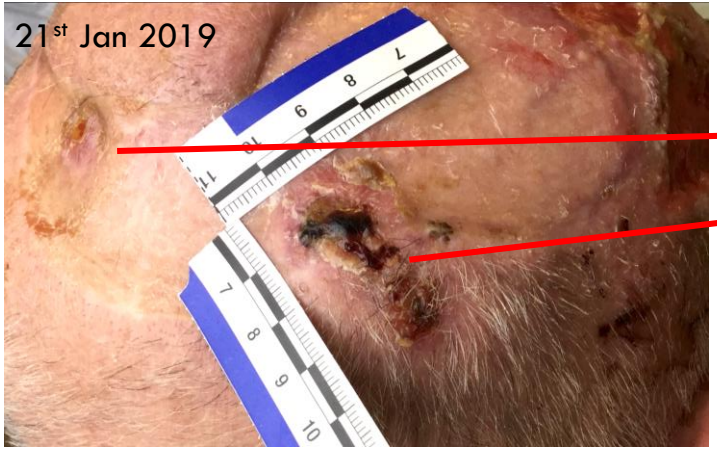
Five CSCC patients have been enrolled in the RP1 combined with Opdivo phases of the trial, one from the Phase 1 expansion in combination with Opdivo, and four from the Phase 2 non-melanoma skin cancer cohort

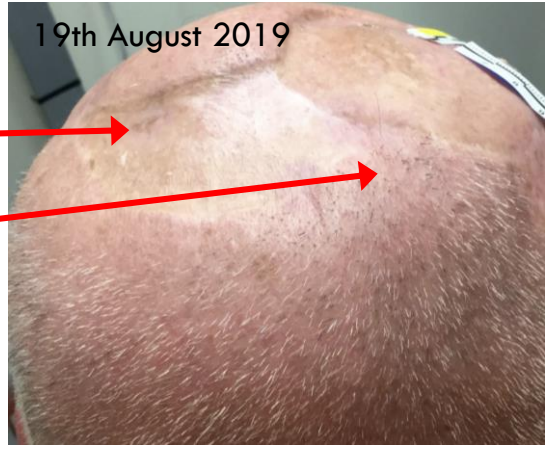
- The first patient achieved a biopsy confirmed complete response (CR) of extensive disease of the scalp. Clear tumor flattening was observed after the first dose of RP1 but before the first dose of Opdivo which is given two weeks later, prior to the patient ultimately achieving a CR. PD-L1 and CD8 T cell levels were also substantially increased post treatment as compared to baseline (this data remains pending for the other patients)
- The second patient achieved a partial response (PR) of bulky bi-lateral disease in the neck, with substantial reduction observed after the first dose of RP1 and prior to the first dose of Opdivo, including of the uninjected tumor contralateral to the injection site
- The third patient had extensive and rapidly progressing metastatic disease and died from disease progression within 6 weeks of starting therapy
- The fourth patient, also with bulky disease in the neck, had a substantial reduction after the first RP1 dose which continued to reduce following the introduction of Opdivo
- The fifth patient, with recurrent bone invasive CSCC of the cheek, had substantial flattening after the first RP1 dose and has initiated the combination therapy phase with RP1 and Opdivo within the last few days
- All patients other than the third patient continue on study therapy

Patient 1: CR



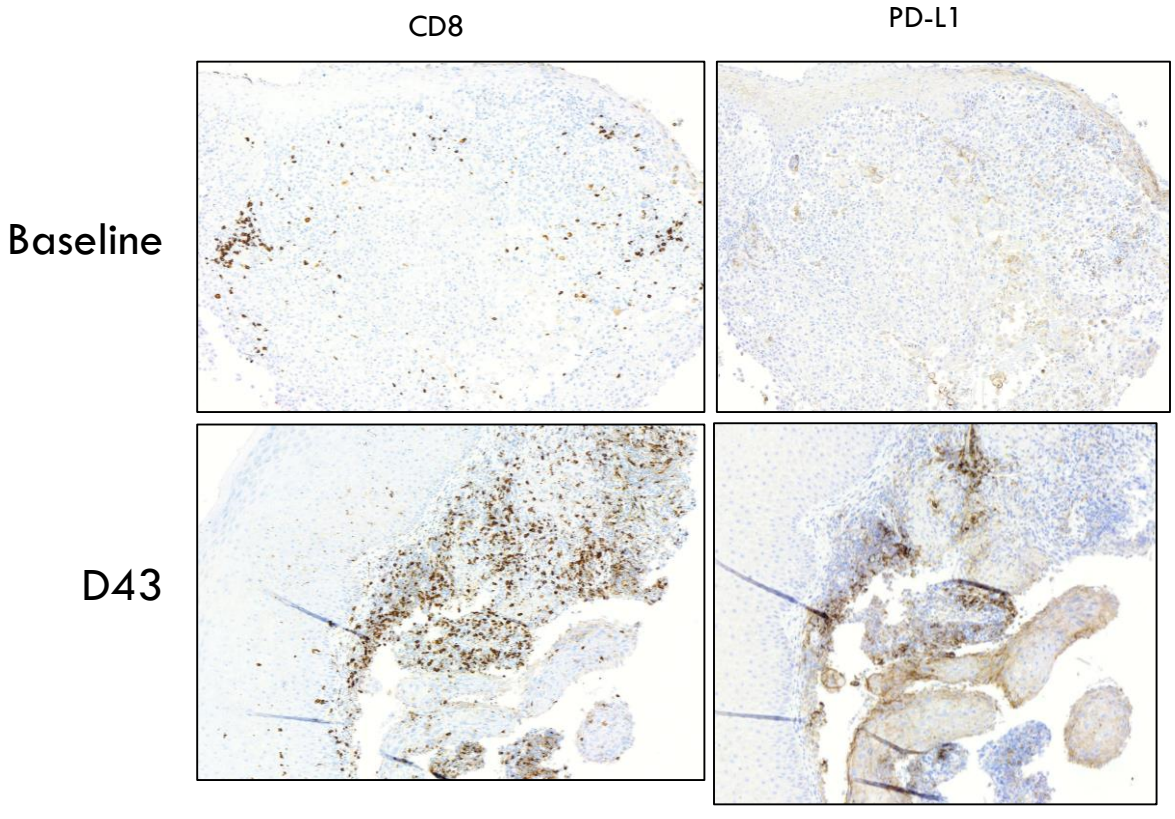






- Patient with extensive recurrent CSCC previously treated with surgery (including skin grafts), radiotherapy, cisplatin/5FU, then electrochemotherapy
- Now CR with residual areas tumor free by multiple biopsy & continuing to heal
- In addition to the complete tumor response, the patients' quality of life has been dramatically improved

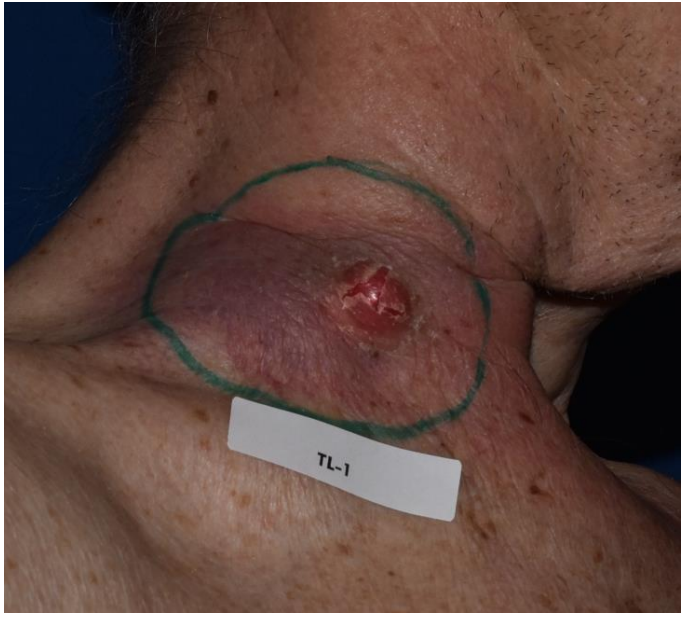
Patient 1: CD8 & PD-L1 staining



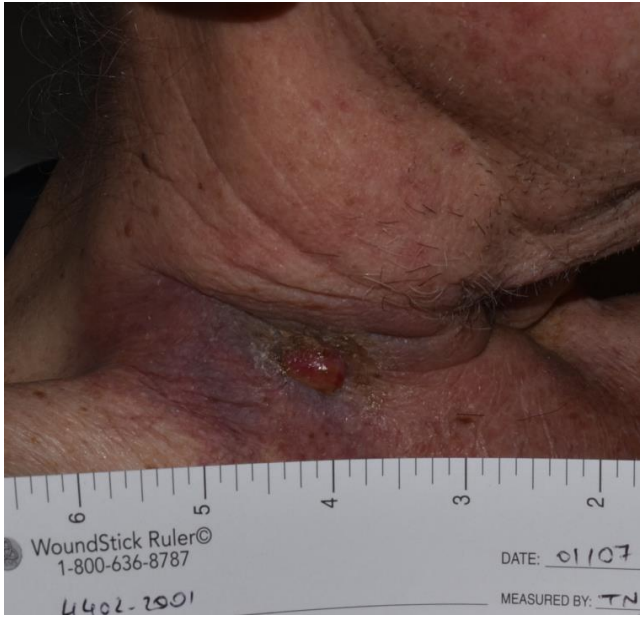
Replimune

Patient 2: PR

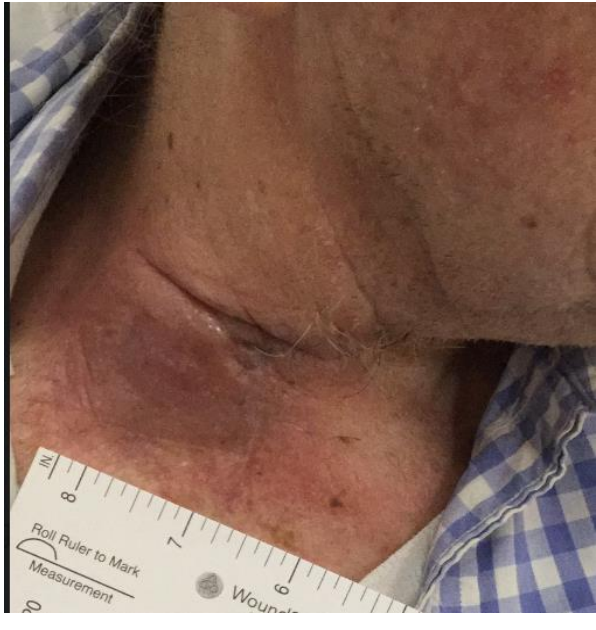
16th June 2019
(baseline)



1st July 2019
(post one dose of RP1, no Opdivo)



16th July 2019
(post 2 doses of RP1 & 1 dose of Opdivo)

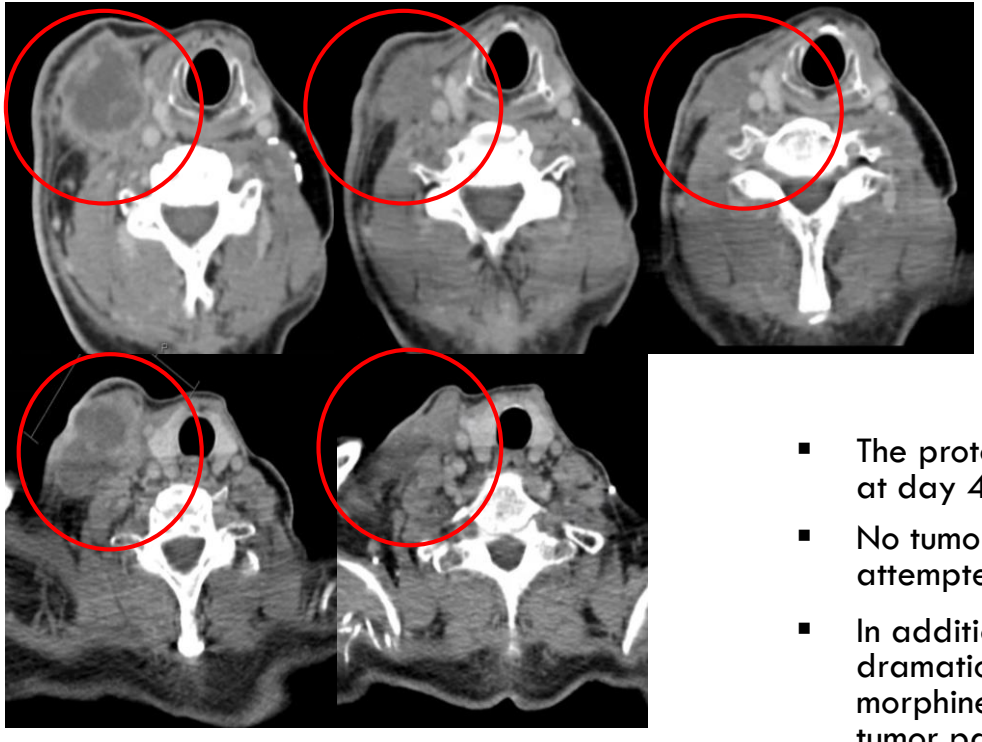


- Patient with recurrent CSCC of the neck (bilateral), previously treated with cisplatin-based chemoradiation & six cycles of carboplatin/5-FU, prior to entering the clinical trial
- Both the large injected tumor & the smaller contralateral tumor in the neck reduced considerably before the first Opdivo dose, i.e. after the first dose of RP1

Patient 2: PR

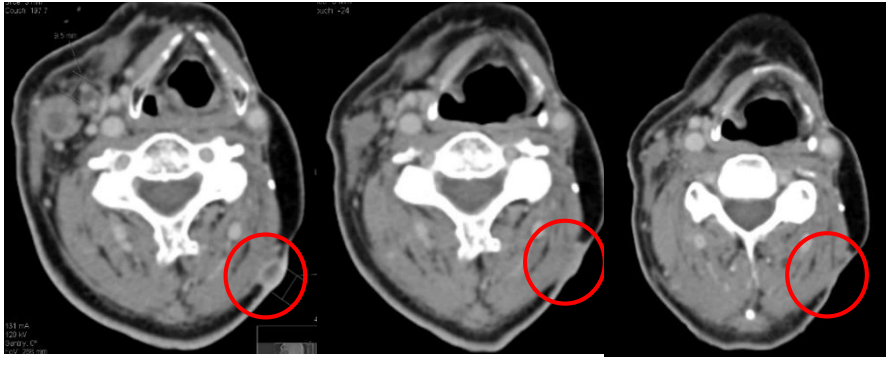
Right neck (injected)

Baseline 8 weeks 16 weeks



Left neck (not injected)

Baseline 8 weeks 16 weeks

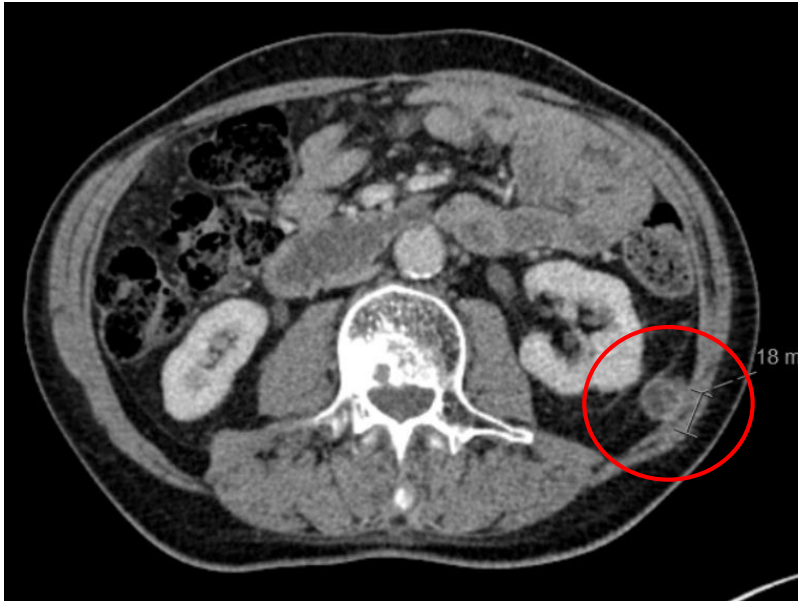


- The protocol mandated biopsy of the injected tumor taken at day 43 was tumor free
- No tumor was found to remain when a biopsy was attempted from the left neck
- In addition to the tumor response, this patient has had a dramatic improvement in quality of life & is now off morphine which was previously necessary for substantial tumor pain

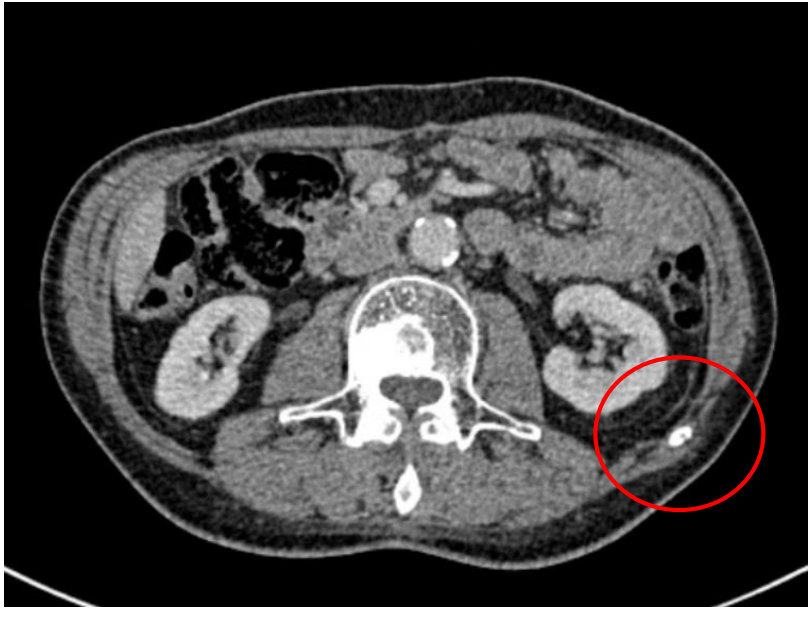
Replimune

Patient 2: PR

Baseline



16 weeks

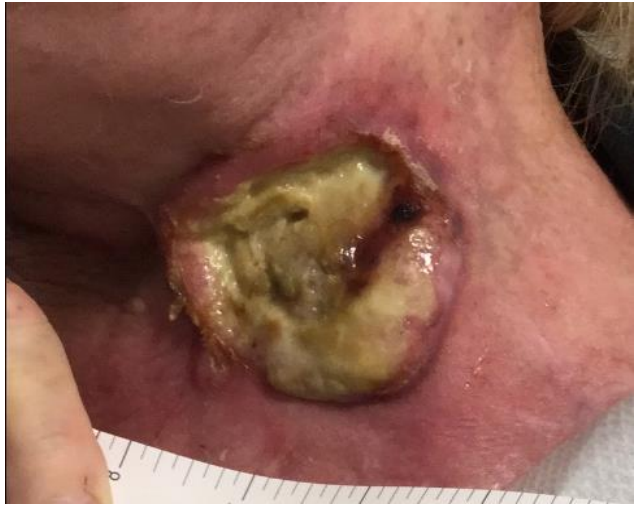


- The patient also had baseline retroperitoneal tumors which have completely resolved
- The only remaining disease are a number of non-measurable bone metastases, which were the main source of the cancer pain which has now resolved

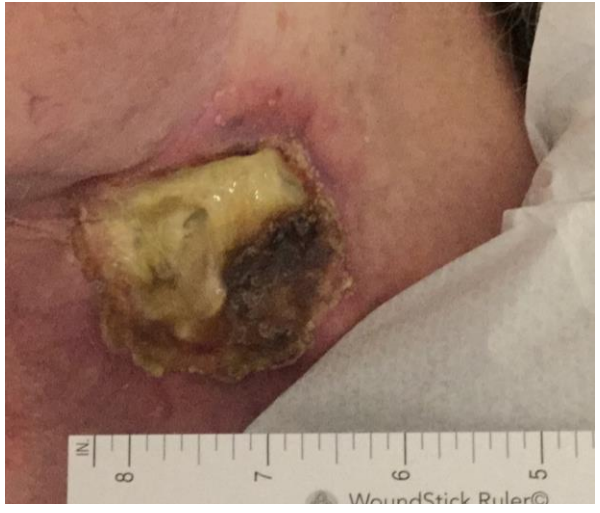
Replimune

Patient 4

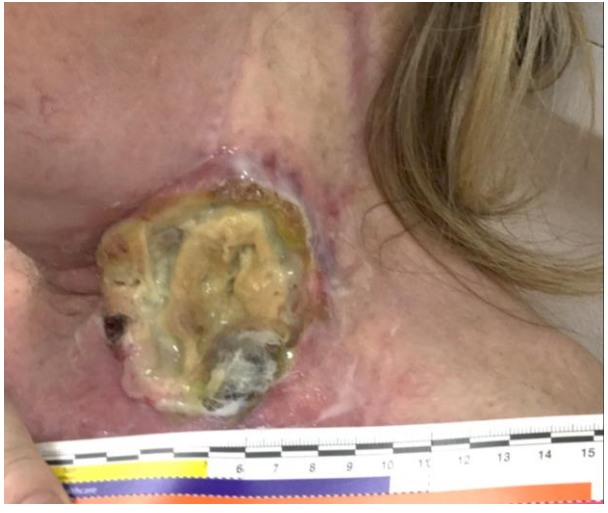
2nd Sept 2019, pre-dosing



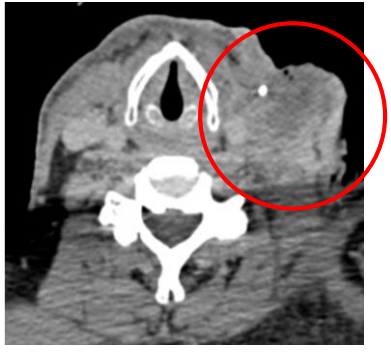
16th Sept (post single RP1 dose)



15th Oct (post RP1x3+Opdivo x2)



Baseline scan

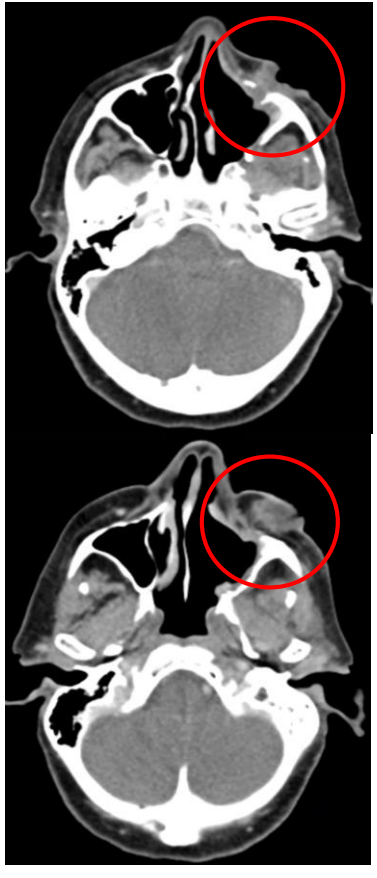


- Recurrent CSCC of the neck, previously treated with radiotherapy with immediate relapse after which the patient entered the clinical trial
- The large injected tumor in the neck flattened considerably after the first dose of RP1 (i.e. before the first Opdivo dose), & continued to reduce thereafter
- No follow up scan has been performed yet

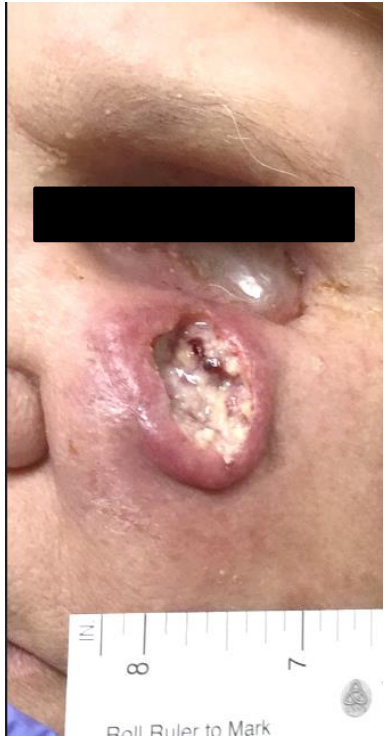
Replimune

Patient 5

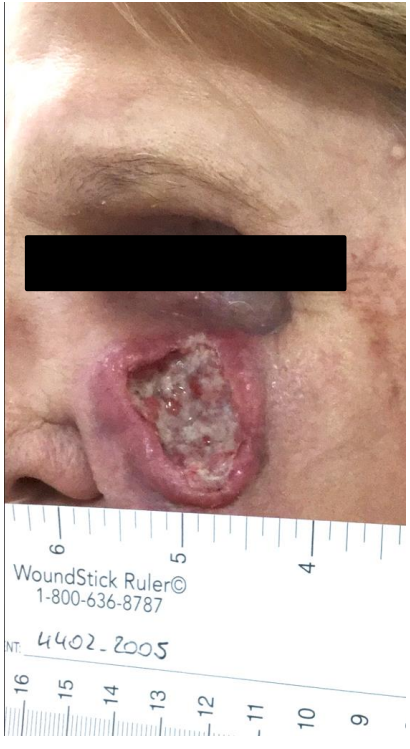
Baseline scan



C1D1
25th September 2019



C2D1 9th October 2019
(pre Opdivo)

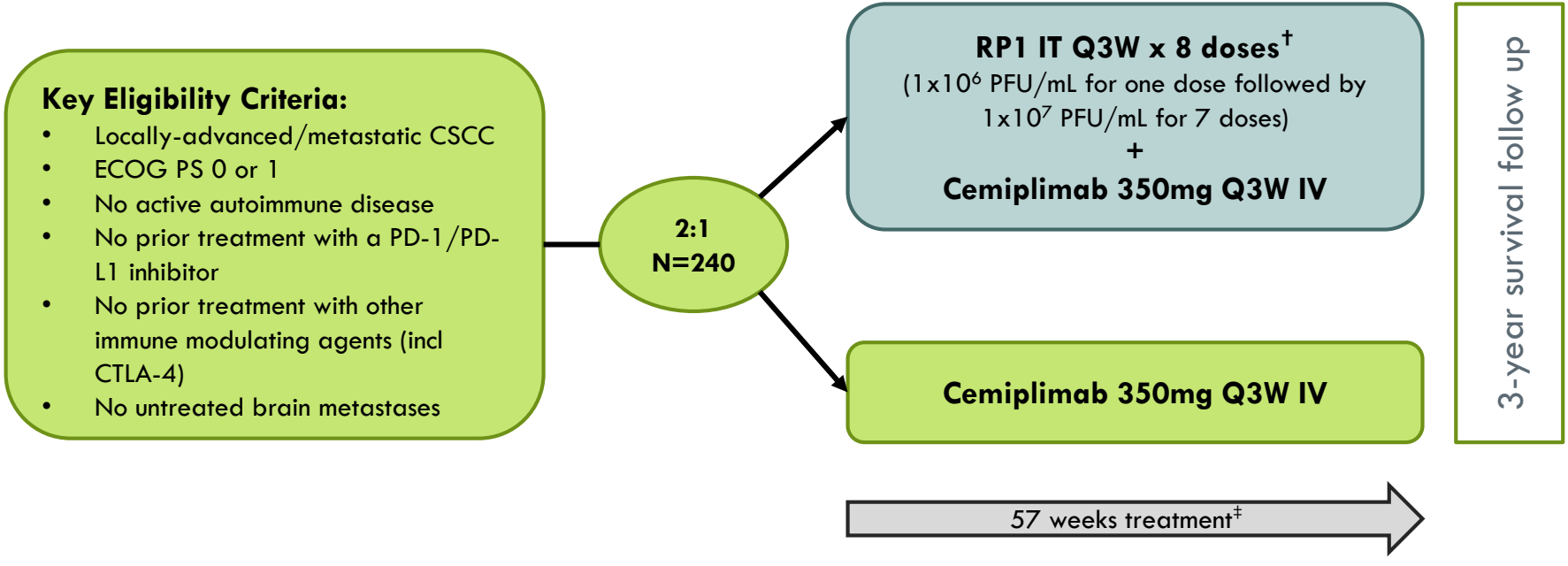


- Recurrent, rapidly progressing CSCC of the left cheek with bone invasion through the maxillary region, previously treated with multiple rounds of surgery & radiation before entry into the clinical trial
- The lesion was observed to have flattened considerably since baseline, i.e. after just the first dose of RP1
- No follow up scan has been performed yet

Replimune

Replimune's clinical trial designs in CSCC

Randomized controlled phase 2 study in CSCC (CERPASS)



Key Endpoints

Primary: ORR (RECIST v1.1)
Secondary: DOR, PFS, OS, Disease-Specific Survival, safety/tolerability

†First dose of RP1 to be given as monotherapy with cemiplimab to be given with second dose of RP1
‡57 weeks treatment for the combination arm; treatment duration for cemiplimab-only arm is 54 weeks

Phase 1b clinical trial in solid organ transplant recipients with CSCC

Key Eligibility Criteria:

- Locally-advanced/metastatic CSCC
- ECOG PS 0 or 1
- Renal or hepatic organ allograft recipients on stable immunosuppressive regimen for ≥12 mos
- No prior systemic anti-cancer treatment for CSCC
- No transplant-related viral infections (such as BK, EBV, CMV) within 3 months
- No untreated brain metastases

RP1 IT Q2W x 26 doses
($1x10^6$ PFU/mL for one dose followed by $1x10^7$ PFU/mL)

50 weeks treatment

3-year survival follow up

Key Endpoints

Primary: Safety and tolerability
Secondary: ORR (RECIST v1.1), DOR, Disease-Free Survival, incidence/severity of graft rejection

Replimune