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VERSATILE-002: Survival with First-Line Treatment with PDS0101 Therapeutic Vaccine and Pembrolizumab in HPV16-positive Recurrent/Metastatic Head and Neck Squamous Cell Carcinoma (HNSCC)

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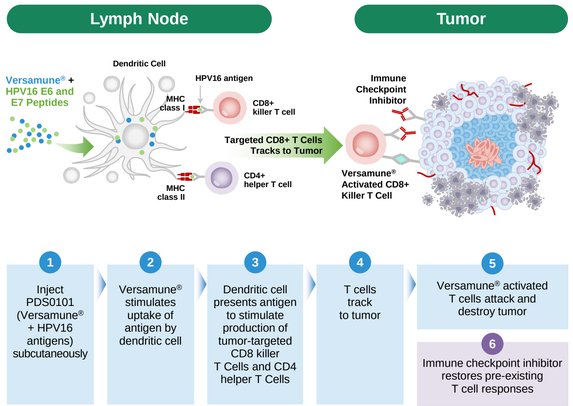
Background

Immune checkpoint inhibitor (ICI) pembrolizumab with or without chemotherapy is a first-line (1L) treatment for most patients with unresectable recurrent and/or metastatic (R/M) HNSCC. PDS0101 (Versamune® HPV) is a novel, investigational HPV16-targeted immunotherapy that stimulates a potent and durable T cell attack against HPV16-positive cancers.

PDS0101 (Versamune® + HPV16 Antigens) Mechanism of Action



Methods

VERSATILE-002 (NCT04260126) is a single-arm, Phase 2 study evaluating PDS0101 and pembrolizumab for 1L and 2L HPV16-positive R/M HNSCC. Subjects were ≥18-years-old, ECOG 0-1, and the 1L group had CPS ≥1.

Subjects received pembrolizumab 200 mg intravenously Q3W for up to 35 cycles (about 2 years) and PDS0101 1 mL subcutaneously Q3W during Cycles 1, 2, 3, 4, and 12. The primary study endpoint was confirmed best overall response (BOR) per RECIST v1.1.

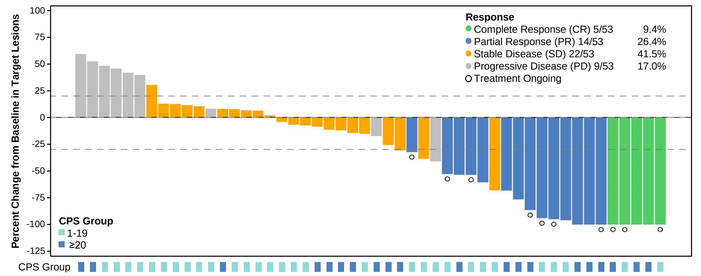
Enrollment is now complete. Herein we report data on overall survival (OS), safety, objective response rate (ORR), and progression free survival (PFS) in 1L R/M HNSCC subjects as of the latest data cut on May 17, 2024.

Results

Demographic/Baseline Characteristic	Efficacy Population (N=53)
Age, Median (Min, Max)	**64.0 (46, 83)**
Sex, n (%)	
Male	**49 (92.5)**
Female	**4 (7.5)**
Race, n (%)	
Asian	**1 (1.9)**
Black or African American	**1 (1.9)**
White	**50 (94.3)**
Other	**1 (1.9)**
ECOG, n (%)	
0	**30 (56.6)**
1	**23 (43.4)**
CPS, n (%)	
1–19	**32 (60.4)**
≥20	**21 (39.6)**
Prior Therapy*, n (%)	
No Prior Therapy	**10 (18.9)**
Chemotherapy Only	**3 (5.7)**
Chemotherapy + Radiation Therapy	**40 (75.5)**

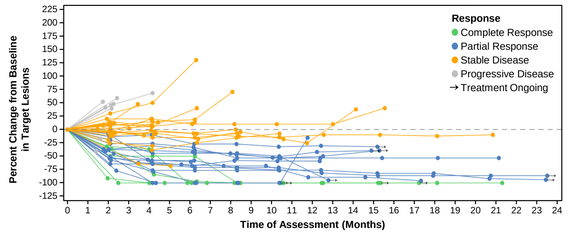
* Prior therapy at initial diagnosis of HNSCC

Waterfall Plot of Best Overall Change from Baseline in Target Lesions



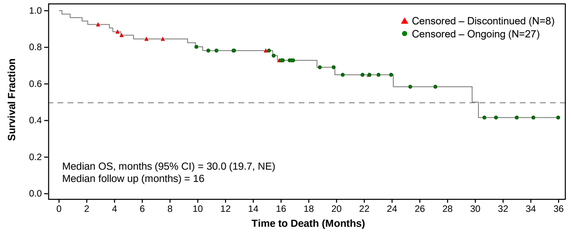
Response categories are based on confirmed Best Overall Response (BOR) by Investigator assessment per RECIST v1.1 using a minimum duration of 42 days for SD confirmation. Ten subjects were still being treated at the time of the data cut. Three subjects were non-evaluable and are not included in the graph; 2 subjects died and one experienced disease progression before receiving an evaluable imaging scan. ORR is 35.8% and DCR is 77.4%. Eleven subjects (21%) had deep tumor responses of 90-100%.

Spider Plot of Percent Change from Baseline in Target Lesions



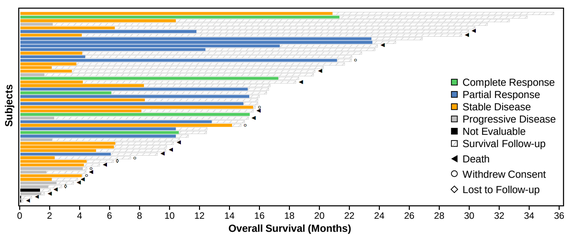
Spider plot shows the durability of the confirmed BOR by Investigator assessment per RECIST v1.1.

Kaplan-Meier Estimates of Overall Survival



Overall survival plotted by standard Kaplan-Meier methodology. At the time of the data cut, 27 subjects were alive and still being followed for survival, 8 subjects discontinued the study (6 withdrew consent, and 2 were lost to follow up), and 18 subjects had death events.

Swimmer Plot of Overall Survival and Progression Free Survival



Data reflect BOR by RECIST v1.1 by Investigator assessment for individual subjects. BOR is displayed graphically from the treatment start until the last tumor assessment, regardless of start and end time of the scans showing the BOR. Survival follow up is displayed from last tumor assessment until date of censoring or death.

Summary of Results by CPS

	CPS ≥1 (N=53)	CPS ≥20 (N=21)
Confirmed ORR (%)	**35.8**	**47.6**
DCR (%)	**77.4**	**81.0**
Median PFS (months)	**6.3**	**14.1**
Median Overall Survival (months)	**30.0**	**30.0**

PDS0101 or Pembrolizumab Treatment Related Adverse Events (TRAE) (≥5%)

Preferred Term	Safety Population (N=62)
Any PDS0101 or Pembrolizumab TRAE, n (%)	**55 (88.7)**
TRAEs Grade ≥3, n (%)	
Grade 3	**8 (12.9)**
Grade 4	**1 (1.6)**
Grade 5	**0**
Injection Site Reactions*, n (%)	**44 (71.0)**
Non-Injection Site TRAEs, n (%)	
Fatigue	**23 (37.1)**
Headache	**12 (19.4)**
Pruritus	**9 (14.5)**
Diarrhea	**8 (12.9)**
Rash	**6 (9.7)**
Pain	**5 (8.1)**
Alanine aminotransferase increased	**4 (6.5)**
Arthralgia	**4 (6.5)**
Aspartate aminotransferase increased	**4 (6.5)**
Cough	**4 (6.5)**
Malaise	**4 (6.5)**

* Injection site reactions include injection site pain, swelling, discoloration, erythema, warmth, pruritus, inflammation, and rash. All injection site reactions were Grade 1 or 2.

Safety population is made up of all subjects who received at least one dose of PDS0101 or pembrolizumab in the 1L cohort. Grade 3 Combination TRAE were: Fatigue (2), Colitis (2), Rash, Diarrhea, Alanine aminotransferase increased, Blood alkaline phosphatase increased, Lymphocyte count decreased, Autoimmune colitis, Headache, Acute kidney injury, Hyponatremia, Hyperglycemia. Grade 4 Combination TRAE: encephalitis (case recorded approximately one year after last PDS0101 dose).

Conclusions

- **Enrollment in this study is complete. As of this data cut, 10 subjects remain on study treatment, and 27 subjects (including the 10 on treatment) continue to be followed for survival.**
- **PDS0101 plus pembrolizumab continues to show excellent tolerability in this 1L R/M HPV16-positive HNSCC population.**
- **Median overall survival of 30.0 months with lower 95% confidence interval of 19.7 months is encouraging, illustrating potential benefit of PDS0101 plus pembrolizumab to improve survival.**
- **Clinical activity continues to remain strong with an ORR of 35.8% and DCR of 77.4%.**
- **Eleven subjects (21%) had deep tumor responses of 90–100%.**
- **A global, randomized, controlled, Phase 3 study of PDS0101 (Versamune® HPV) plus pembrolizumab vs. pembrolizumab monotherapy in patients with 1L HPV16-positive R/M HNSCC with CPS ≥1 is planned to start this year.**

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Disclosures

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