Efficacy and safety of VB10.16, a therapeutic DNA vaccine specifically targeting antigen presenting cells, in combination with atezolizumab in patients with advanced HPV16-positive cervical cancer: results from a pre-planned interim analysis


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BACKGROUND

VB10.16 is a novel therapeutic antigen-presenting cell targeting DNA vaccine developed to treat HPV16-positive cancers. We aimed to investigate whether VB10.16 is safe and efficacious when administered to patients with advanced cervical cancer in combination with atezolizumab.

METHODS

In this open-label, single-arm, phase 2a trial, patients with recurrent or metastatic HPV16-positive cervical cancer were recruited at 13 hospitals across Europe. Patients received up to 11 intramuscular 3 mg VB10.16 vaccinations in combination with 3-weekly 1200 mg atezolizumab for up to 48 weeks, or until disease progression or unacceptable toxicity. Anti-tumor activity was assessed by central independent review using RECIST v1.1 criteria.

RESULTS

At the cut-off date of 14 February 2022 for this interim analysis, 39 patients had at least one post-baseline scan available and were included in the efficacy analysis. 69% of patients had received 2 or more prior systemic treatment lines. Overall Response Rate (ORR) was 21%, with 2 Complete Responses (CR) and 6 Partial Responses (PR). Responses were observed in both PD-L1 positive and negative patients (ORR 27% and 17%, respectively). Disease Control Rate (DCR) was 64% (77% in PD-L1 positive and 58% in PD-L1 negative patients). 50 patients had received ≥1 dose of VB10.16 and atezolizumab and were included in the interim safety analysis. 5 patients (10%) experienced treatment-related adverse events (TRAES) of grade 3, including 1 patient (2%) who experienced a grade 3 TRAE related to VB10.16. No grade 4-5 TRAEs were reported.

CONCLUSIONS

- VB10.16 combined with atezolizumab had a favorable safety profile in heavily pre-treated patients.
- The combination treatment showed clinically relevant HPV16-specific T cell responses and promising and durable clinical activity with a high DCR of 64% and 8 patients achieving CR or PR.
- Anti-tumor efficacy was observed in both PD-L1 positive and negative patients, with 27% overall response rate (ORR) and 17% DCR in PD-L1 positive patients, and 17% ORR and DCR 58% in PD-L1 negative patients.
- Elevated NLR and PLR values appeared to be applicable prognostic and predictive factors, indicating that baseline levels of these readily accessible inflammation markers could aid in patient selection.

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