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IO102-IO103 cancer vaccine plus pembrolizumab for first-line (1L) advanced melanoma: Primary phase III results (IOB-013/KN-D18)

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Background

IO102-IO103 is an investigational immune-modulatory therapeutic cancer vaccine designed to target both tumour cells and immune-suppressive cells within the tumour microenvironment by stimulating activation and expansion of T cells against IDO1+ and/or PD-L1+ cells.

Methods

In this open-label, randomized phase 3 trial, 407 patients (pts) with treatment-naïve advanced melanoma were assigned 1:1 to receive subcutaneous IO102-IO103 (85 µg each) in combination with pembrolizumab 200 mg intravenously every 3 weeks or pembrolizumab alone. The primary analysis was stratified by disease stage and PD-L1 status. The primary endpoint was progression-free survival (PFS) by blinded independent central review per RECIST 1.1.

Results

Median PFS was 19.4 months (95% CI, 9.7–not reached) with IO102-IO103 + pembrolizumab vs 11.0 months (95% CI, 6.0–14.8) for pembrolizumab (hazard ratio (HR) 0.77 (95% confidence interval [CI] 0.58–1.00) $p=0.0558$); statistical significance threshold of $p \leq 0.045$ was missed. Improvement in PFS favored the combination across subgroups, including those with poor prognosis factors such as PD-L1 negative or elevated LDH. In patients with PD-L1 negative tumors median PFS was 16.6 vs 3.0 months (HR 0.54, 95% CI 0.35–0.85). IDO1 and PD-L1 specific T cell were significantly expanded in the vaccine arm. There was no increase in the frequency of immune-mediated adverse events (34.0% vs 38.4%) or treatment-related adverse events grade ≥ 3 (14.5% vs 15.6%) in the vaccine arm. Vaccine-related injection site reactions were mostly grade 1/2.

Conclusions

IO102-IO103+pembrolizumab achieved a clinically relevant 8.4 months improvement in median PFS compared to pembrolizumab. Combination was safe and well tolerated. The data support the potential benefit of this combination in advanced melanoma, without adding significant systemic toxicity.

Clinical trial identification

EudraCT 2021-004594-32, Start date: 16/02/2022, Date on which this record was first entered in the EudraCT database: 2021-12-17; NCT05155254.

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Legal entity responsible for the study

IO Biotech ApS.

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Disclosure

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