BACKGROUND

The PD-L1 inhibitor atezolizumab is approved for intravenous (IV) use in several solid tumor types, including non-small cell lung cancer (NSCLC), ovarian cancer, and urothelial carcinoma. Drug exposure following atezolizumab SC was not collected in clinical trials. Here, we report intravenous (IV) concentration-time data from two titration phases of an ongoing study (IMscin001) in which non-small cell lung cancer (NSCLC) patients were randomized to receive atezolizumab SC or IV.

OBJECTIVES

- Here we report the randomized, Phase II (Part 2) portion of the open-label, multicenter IMscin001 study (NCT03750121) aimed to investigate non-inferiority of exposure (Cycle 1) after one single-agent atezolizumab SC vs IV administration in patients with locally advanced or metastatic NSCLC following progression under platinum-containing therapy.

METHODS

Study design and patients

- Part 2 of IMscin001 (NCT03750121) is a Phase II, open-label, randomized, multicenter study assessing the pharmacokinetics (PK), immunogenicity, and safety of atezolizumab SC and IV in patients with locally advanced or metastatic NSCLC.

- Eligible patients were those with histologically verified, measurable disease, including locally advanced or metastatic NSCLC.

- Enrolled patients were studied with locally advanced stage IIIA or IB disease not eligible for definitive chemoradiotherapy or chemotherapy (design for part 2 of the Union International Contre Cancer (UICC) and National Comprehensive Cancer Network Eastern Cooperative Oncology Group 1103150 study (E3110) NSCLC who were chemotherapy naïve and for whom first-line chemotherapy has failed.

- Key inclusion criteria included:

  - Patients must have had measurable disease as defined by RECIST 1.1, and an ECOG PS of 0 or 1.

  - Patients with a coexisting ODF1 mutation or an ALK alteration have experienced disease progression during or after treatment with, or intolerance to, or a regimen therapy.

  - Patients previously treated with cancer immunotherapy, and patients with a concurrent or active systemic malignancy.

Statistical analyses

- The non-inferiority analysis was performed by one-sided hypothesis testing using the Hochberg multiple adjustment procedure for the co-primary endpoints, Cycle 1 observed trough serum concentration (C0, trough) and defined MP (IMpassion130: NCT02425891).

- The lower bound of the 80% CI for the geometric mean ratio (GMR) between the SC and IV arm for both primary endpoints were compared with the pre-defined non-inferiority margin of 0.80 to determine non-inferiority.

RESULTS

- Key findings:

  - Patients were enrolled from December 2, 2020, to March 30, 2022.

  - Of the 569 patients screened, 371 were randomized 2:1 to receive atezolizumab SC vs IV.

  - Sample sizes for all MP data were n=246 (SC) and n=122 (IV).

- Key results:

  - Median age of the patient population was 64.0 years (range, 27.0-80.0).

  - Patients with symptomatic, untreated, or actively progressing disease at baseline evaluable patients, n (%): SC arm 247/371 (67.2%), IV arm 122/371 (32.8%).

  - Table 1: Demographics and baseline characteristics


discussion

- The absence of positive samples at baseline for patients enrolled in the SC arm suggests that atezolizumab SC is not a suitable immunogenicity acceptability criterion for patients with a negative sample at baseline for patients with active disease. Future investigations should evaluate other immunogenicity acceptability criteria for patients with a negative sample at baseline for patients with active disease.

- Patients with a positive sample at baseline, n (%): SC arm 24/371 (6.5%), IV arm 20/371 (5.4%).

- Table 1: Demographics and baseline characteristics

- Figures 1-4: Pharmacokinetic and phospho-specific IgM (psAb) data from the IMscin001 study.
Author Disclosures

IMscin001 (Part 2: Randomized Phase III): Pharmacokinetics, efficacy and safety of atezolizumab subcutaneous vs intravenous in previously treated locally advanced or metastatic non-small cell lung cancer

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