Abstract No. CT107

A PHASE 1B/2 OPEN-LABEL STUDY WITH RANDOMIZATION IN PHASE 2 OF IMU-131 HER2/NEU PEPTIDE VACCINE PLUS STANDARD OF CARE CHEMOTHERAPY IN PATIENTS WITH HER2/NEU OVEREXPRESSING METASTATIC OR ADVANCED ADENOCARCINOMA OF THE STOMACH OR GASTROESOPHAGEAL JUNCTION

Interim Analysis Results

IMUGENE

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INTRODUCTION

HER-Vaxx (IMU-131) is a **B-cell activating immunotherapy** consisting of three fused B-cell epitopes (p467) from the HER2/neu extracellular domain coupled to CRM197 and administered with the adjuvant Montanide.

The Phase 2 part of the study hypothesizes that active immunization with HER-Vaxx (IMU-131) will replicate or improve efficacy and safety of the approved monoclonal antibodies that target HER2 in patients with confirmed Her2+ advanced or metastatic Gastric Cancer. In the Phase 1b dose finding part of the study tumor response of patients who received 50ug dose strongly correlated with antibody levels with 50ug selected as the Phase 2 dose (Wiedermann et. al., Annals of Oncology (2019)).

BACKGROUND

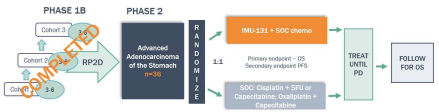

Figure 1: IMU.ACS.001 Study Design

In part 2 of study IMU.ACS.001, patients are randomized into two arms of either HER-Vaxx plus standard chemotherapy or standard chemotherapy alone.

The study is conducted in countries with limited access to trastuzumab in Asia and Eastern Europe.

The primary endpoint is overall survival, with progression-free survival and safety as secondary endpoints. Immune related endpoints include values and changes from randomization in humoral and cellular immunogenicity data.

METHODS

IMU-131 plus chemotherapy treated patients received 50ug dose of IMU-131 at Baseline/Day 0, Day 14, Day 35, Day 77 and then every 63 days until disease progression.

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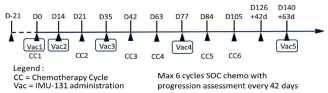

Figure 2: IMU.ACS.001 Phase 2 Treatment Schedule

RESULTS

Here we report the safety and efficacy results from the 1st interim analysis (OS and PFS) in a total of 27 patients after 15 progression events.

Within the ITT patient population, 8 of 27 patients have died on the control arm and 4 are deceased on the HER-Vaxx plus SOC chemotherapy arm. This translated into an overall survival HR of 0.418 (2 sided 80% CI: 0.186, 0.942) and a 1-sided p-value of 0.083. Progression free survival data of 27 patients was available, 9 patients progressed on the control arm and 6 patients on the HER-Vaxx plus SOC chemotherapy arm with a HR of 0.532 (2 sided 80% CI 0.267, 1.060) and a 1-sided p-value of 0.086.

Endpoint	Overall Survival Intent to Treat (Primary)		Progression Free Survival Intent to Treat (Secondary)	
Treatment	HERvaxx + Chemotherapy	Chemotherapy Only	HERvaxx + Chemotherapy	Chemotherapy Only
All Patients n=27	14	13	14	13
Events	4	8	6	9
HR	0.418		0.532	
2-sided 80%CI	(0.186,0.942)		(0.267,1.060)	
Log-rank Test (1-sided p-value) *	0.083*		0.086*	

*Pre-specified alpha at 0.10
* Statistically Significant

Table 1: IMU.ACS.001 Phase 2 Overall Survival & Progression Free Survival

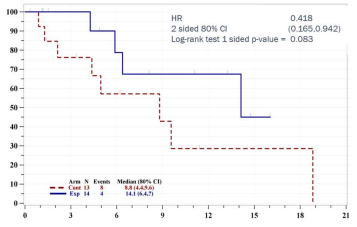

Figure 3 : IMU.ACS.001 KM-Curve Overall Survival Primary Endpoint

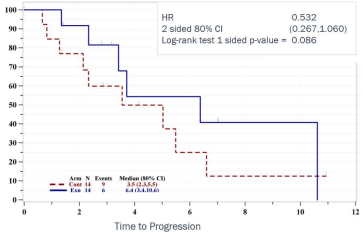

Figure 4: IMU.ACS.001 KM-Curve Progression Free Survival Secondary Endpoint

There was no difference in safety between the two treatment arms, suggesting HER-Vaxx does not add toxicity to SOC chemotherapy (Table 2).Incidence of Grade 3 and higher non-hematological (Table 3) and hematological adverse events (Table 4) were low and balanced between the treatment arms.

Two patients on each treatment arm had an asymptomatic LVEF drop, none of them below LVEF of 50.

Total (n=27)	HERvaxx + Chemotherapy n=14		Chemotherapy Only n=13	
	n	%	n	%
Patients with at least one TEAE	13	92.9%	12	92.3%
Grade 1	2	14.3%	3	23.1%
Grade 2	5	35.7%	2	15.4%
Grade 3	6	42.9%	4	30.8%
Grade 4	0		2	15.4%
Grade 5	0		1	7.7%

Table 2: IMU.ACS.001: Safety Overview of Treatment Emergent Adverse Events (TEAE)

Adverse Event ≥ Grade 3	HERvaxx + Chemotherapy n (grade)	Chemotherapy Only n (grade)
Gastrointestinal toxicity	0	1 (3)
Fatigue	2	0
Gamma-GT increased	2 (3+3)	0
Acute respiratory failure	1 (3)	1 (5)
Cachexia	0	1 (3)
Palmar-plantar erythrodysaesthesia syndrome	0	1 (3)
Pneumonia	0	1 (4)
Acute hepatic failure	0	1 (4)
Embolism	1 (3)	0
NOS (uncoded)	0	1 (3)
Total n	6	7

Table 3: IMU.ACS.001 Grade 3 and Higher Non- Hematological AE

Adverse Event	HERvaxx + Chemotherapy n	Chemotherapy Only n
Anemia:		
Grade 1+2	1	1
Grade 3	1	4
Febrile neutropenia:		
Grade 1	1	0
Neutrophil count decreased:		
Grade 2	1	0
Grade 3	1	0
Platelet count decreased:		
Grade 3	1	0
Grade 4	0	1
Total n	6	6

Table 4: IMU.ACS.001 Grade 3 and Higher Hematological AE

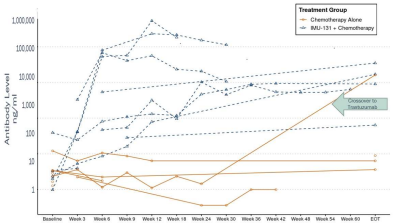

Figure 5: IMU.ACS.001 PHASE 2 - HER2 Specific Antibodies

By week 6 HER2-AB were developed by the patient's immune system as response to HER-Vaxx vaccinations and remained high during treatment with every 63 days maintenance vaccinations only. One patient on the chemo control arm progressed at week 24 and received trastuzumab containing treatment. The patient returned for one AB assessment that showed a similar level as HER-Vaxx (Figure 5).

Further data on response and biomarker is awaited.

CONCLUSIONS

These data demonstrate HER-Vaxx may provide treatment benefits consistent with traditional monoclonal antibodies with a corresponding adaptive immune response without toxicity.

A study (neoHERIZON) in perioperative HER2+GC with HER-Vaxx in combination with FLOT +/- anti-PD-L1 is in planning.

REFERENCES

Wiedermann et al: 2019, Annals of Oncology Volume 30 P495-496: Results of P1b study with a HER2/neu B-cell vaccine administered with chemotherapy in patients with HER2/neu overexpressing advanced gastric cancer

DISCLOSURES

Study is sponsored by Imugene Limited

B-cell peptide vaccine (IMU-131) was developed at the Medical University of Vienna